ORION®

HIGH PERFORMANCE CAR AUDIO

COBALT™



Subwoofer

MODEL

CO104S
CO124S
CO154S

OWNER'S MANUAL

TABLE OF CONTENTS

INTRODUCTION

Thank you for your purchase of the Orion Cobalt Subwoofers. These woofers represent a combination of incredible performance and value. We at Orion strive to give you the latest up to date information about this product. What we can't give you with the manual is personal installation or technical experience. If you have questions concerning the use or application of this product please refer to the nearest ORION dealer for assistance, visit www.orioncaraudio.com, or call the technical support hot-line at 1-800-876-0800. As we are always finding new ways to improve our product, the features and specifications are subject to change without notice.

PRACTICE SAFE SOUND™

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered automotive sound systems can generate sound pressure levels in excess of 130dB. When playing your system at high levels, please use hearing protection and prevent long term exposure.

Model Number: _______________

Serial Number: _______________

Date of Purchase: _______________

WHAT'S IN THE BOX

Included in this box are all the necessary mounting hardware and cables for your basic installation. Listed below is a detailed list of the components included in this system package.

Quantity	Description
1	Installation and Operation Manual
1	Orion™ Cobalt woofer
1	Mounting template
	Mounting screws

INSTALLATION

The performance of these Cobalt subwoofers is directly proportional to the quality of the installation. Care taken with the installation process will be rewarded by years of satisfying performance. If you are unsure of your installation abilities, please refer to your local authorized Orion dealer for assistance. Orion dealers are trained professionals dedicated to extracting the maximum performance out of your Orion system. If you decide to install this speaker system yourself, please read the entire section on sealed and vented enclosures before starting the installation. .

TOOLS OF THE TRADE

Listed are the majority of the tools required to perform the installation. Having the proper tools will make the installation much easier. It is very difficult when you get half way through the installation and discover that you require a specific tool to get yourself through a particular part of the installation. Some of these tools are necessities. Some make the job much easier.

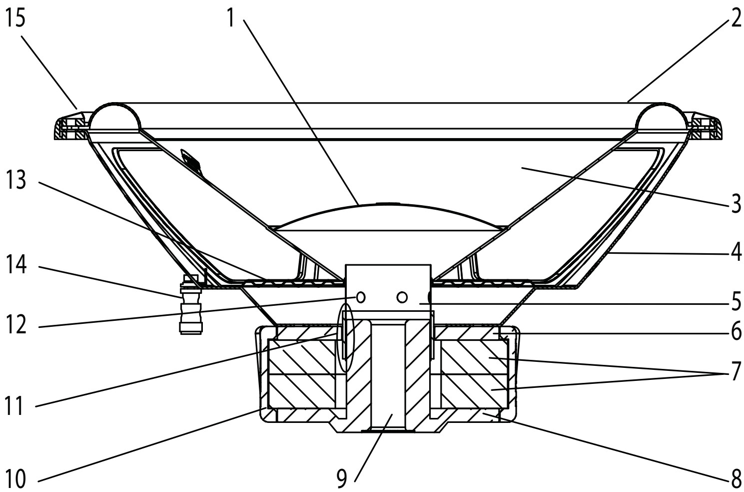
- Marking Pen
- Phillips Screwdriver
- Allen Wrenches
- Table Saw
- Wire Cutters
- Electric Drill and assorted Bits
- Wire Strippers
- Volt/Ohm Meter (Optional)
- Jig Saw
- Wire Crimpers

FINDING SPEAKER MOUNTING LOCATIONS

Choosing the correct speaker locations will have the greatest effect on the sound quality of the system. Different considerations are needed when choosing the locations that best suit your needs. The locations must be large enough for the speakers to fit. Care is needed to ensure that the location you have chosen will not affect any of the mechanical or electrical operations of the vehicle.

Determining the best location for the speakers will depend on your cosmetic needs and your vehicle's interior. If minimal intrusion in your vehicle is desired, factory speaker locations may be the ticket for you. These woofers are too large to fit most factory locations and typically need enclosures to perform correctly.

FEATURES



1	Polypropylene dust cap - moisture and UV resistant.
2	Oversized NBR (Nitrile-butadiene Rubber) surround for linear controlled long excursion.
3	Vented paper cone - moisture and UV resistant.
4	Custom stamped steel frame.
5	Vented Kapton voice coil former (10” & 12" uses 1.5" voice coil former, 15” use a 2" voice coil former).
6	8mm steel front plate.
7	Large 2 stack ceramic magnets.
8	8mm steel back plate/pole piece T yoke assembly.
9	.75" vent. Part of the enhanced voice coil cooling system (forced convection).
10	PVC magnet protector.
11	High temperature Copper 4 ohm voice coil.
12	Venting in voice coil former. Part of the enhanced voice coil cooling system (forced convection).
13	Interlaced Conex spider with stitched and looped tinsel leads attached.
14	Push Terminals.
15	Reversible PVC mounting gasket.

WIRING CONFIGURATIONS

The following illustrations provide guidelines on properly connecting your Orion Cobalt woofer to an Orion Cobalt amplifier for maximum performance.

Recommended Amplifier Power

	Continuous Power (RMS)	Peak Power (Watts)
1 woofer	100 to 300	200 to 600
2 woofers	200 to 600	400 to 1200
3 woofers	300 to 900	600 to 1800
4 woofers	400 to 1200	800 to 2400

Parallel—Two Speakers (4 ohm voice coils)

Two 4 ohm voice coil woofers with the two woofers in parallel results in a 2 ohm load to the amplifier..

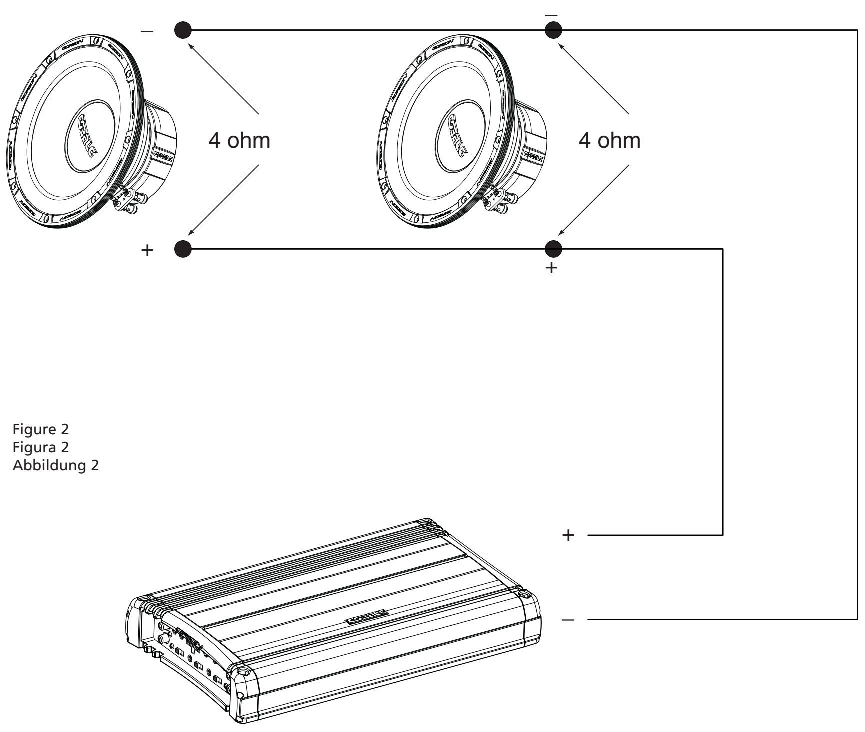


Figure 2
Figura 2
Abbildung 2

1. Connect the speaker in parallel by connecting the two positive (+) terminals together and the two negative (-) terminals together.

2. Wire the positive (+) terminals of the woofers to the positive (+) terminal on the amplifier. Wire the negative (-) terminals of the woofers to the negative (-) terminal on the amplifier.

One Speaker (4 ohm voice coil)

One 4 ohm voice coil woofer results in a 4 ohm load to the amplifier.

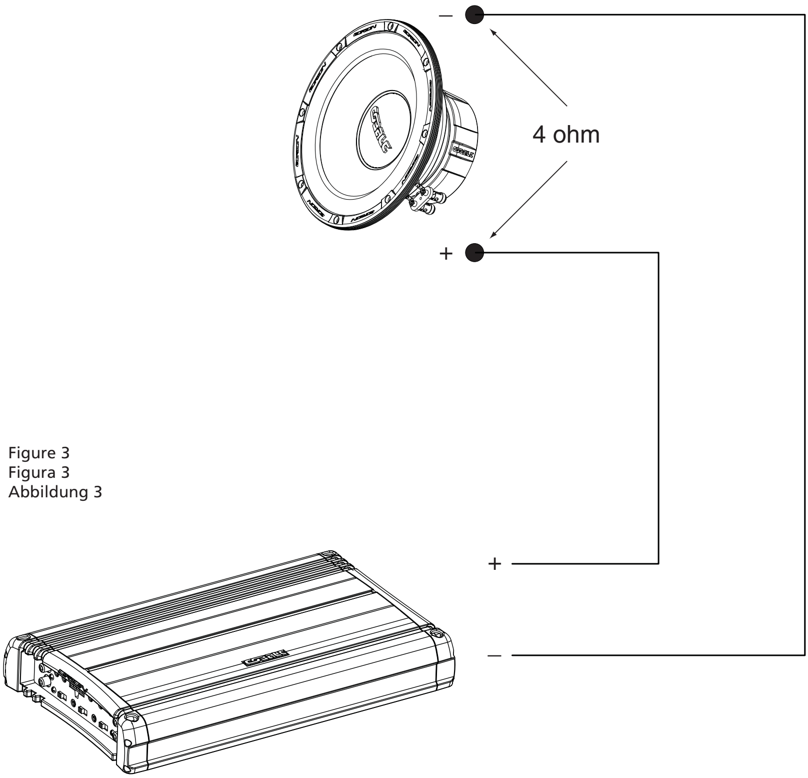


Figure 3
Figura 3
Abbildung 3

1. Connect the speaker by connecting the positive (+) terminal of the woofer to the positive (+) terminal on the amplifier. Wire the negative (-) terminal of the woofer to the negative (-) terminal on the amplifier.

Series—Two Speakers (Single 4 ohm voice coils)

Two single 4 ohm voice coil subwoofers with the voice coils connected in series to result in an 8 ohm load to the amplifier.

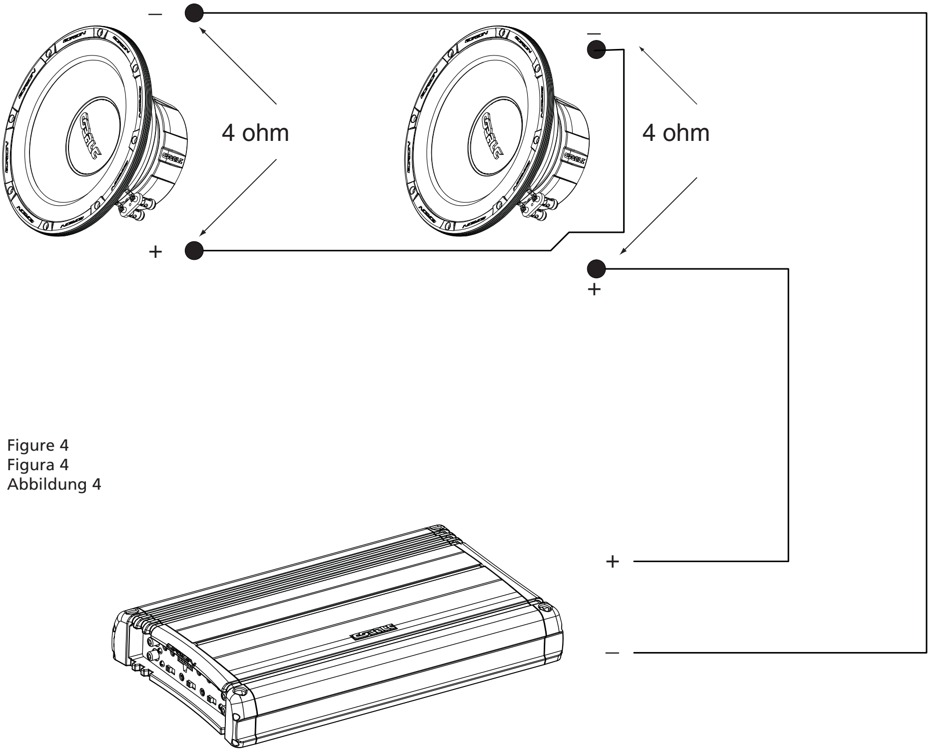


Figure 4
Figura 4
Abbildung 4

1. Connect the woofers in series by connecting the negative (-) terminal of the first woofer voice coil to the positive (+) terminal of the second woofer voice coil.

2. Wire the positive (+) terminal of the first woofer voice coil to the positive (+) terminal on the amplifier. Wire the negative (-) terminal of the second woofer voice coil to the negative (-) terminal on the amplifier.

Series/Parallel - 4 Speakers (Single 4 Ohm Coils)

4 single 4 ohm voice coil subwoofers with the voice coils of each pair of speaker wired in series and then all 4 speakers wired in parallel to result in a 4 ohm load on the amplifier.

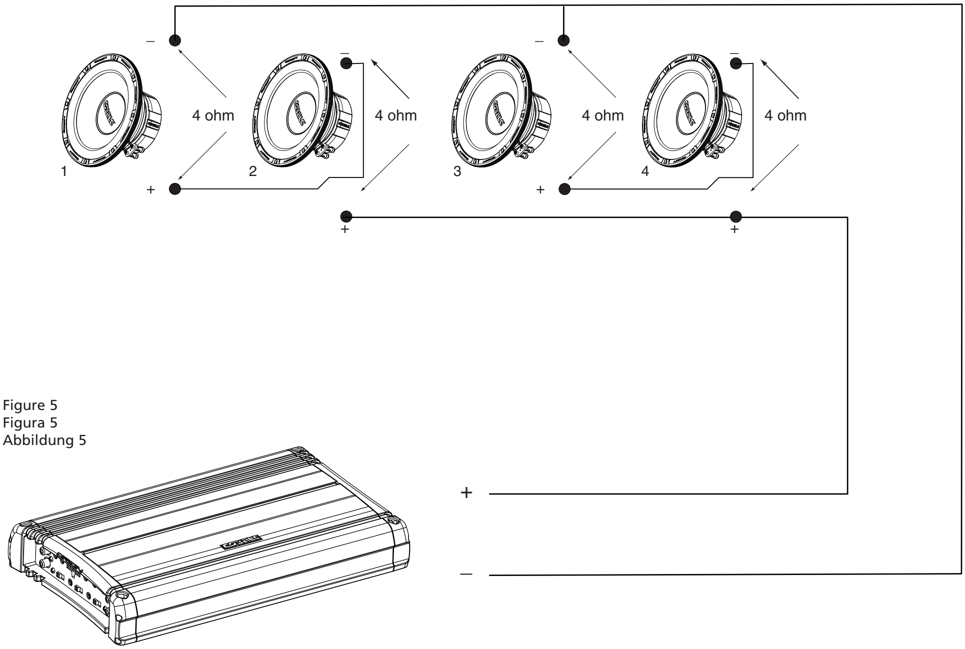


Figure 5
Figura 5
Abbildung 5

1. Connect the negative (-) terminal from speaker 1 to the negative terminal on speaker 3 and then hook that wire to the negative (-) terminal on the amplifier.

2. Connect the positive (+) terminal from speaker 1 to the negative (-) terminal on speaker 2.

3. Connect the positive (+) terminal from speaker 3 to the negative (-) terminal on speaker 4.

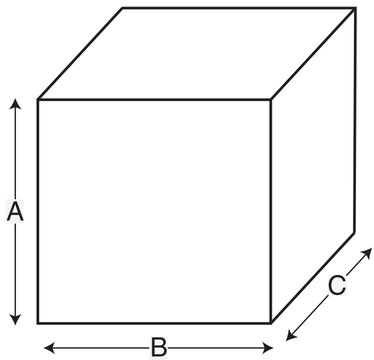
4. Connect the positive (+) terminal from speaker 2 to the positive (+) terminal on speaker 4 and then hook that wire to the positive (+) terminal on the amplifer.

ENCLOSURE RECOMMENDATIONS

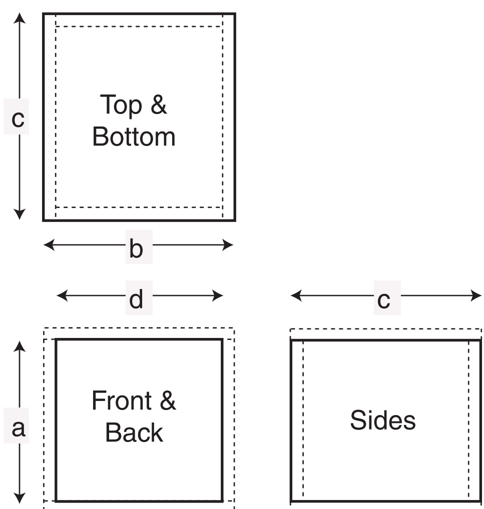
Enclosure Details

1. External dimensions calculated for 3/4" building material
2. Includes speaker displacement
3. Volumes given are net tuning volume
4. Enclosures include a minimal amount of damping material. Just enough material to line the inside of the enclosure is required.

Cobalt CO104S Sealed Enclosure Recommendations



External Dimensions
A = 14 in
B = 12.5 in
C = 11.5 in
Internal Dimensions
A = 12.5 in
B = 11 in
C = 10 in
Wall Thickness
Front = 0.75 in
Side = 0.75 in



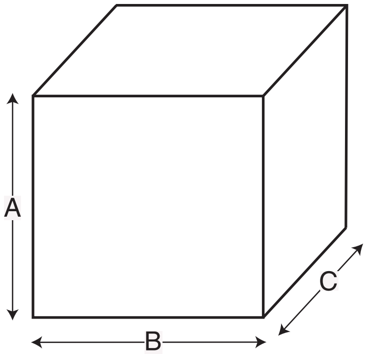
—Box Parts—
Box Shape: Square Prism
1 Top, 1 Bottom:
depth (c) = 11.5 in
width (b) = 12.5,
thickness = 0.75 in
1 Front, 1 Back:
height (a) = 12.5 in
width (d) = 11,
thickness = 0.75 in
2 Sides: height (a) = 12.5 in
depth (c) = 11.5,
thickness = 0.75 in

—Driver Mounting—
Front

Figure 6
Figura 6
Abbildung 6

Cobalt CO104S Vented Enclosure Recommendations

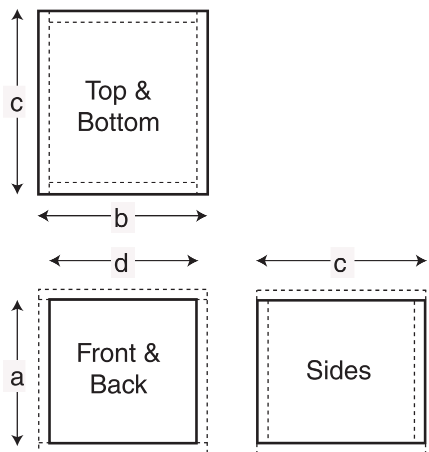
Figure 7
Figura 7
Abbildung 7



External Dimensions
- A = 15.75 in
- B = 14.25 in
- C = 12 in

Internal Dimensions
- A = 14.25 in
- B = 12.75 in
- C = 10.5 in

Wall Thickness
- Front = 0.75 in
- Side = 0.75 in



—Box Parts—

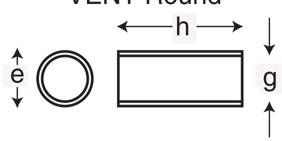
Box Shape: Square Prism

1 Top, 1 Bottom:
- depth (c) = 12 in
- width (b) = 14.25,
- thickness = 0.75 in

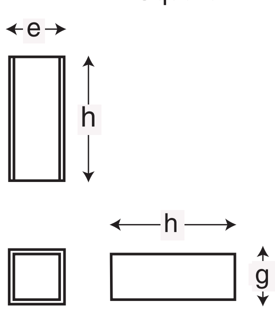
1 Front, 1 Back:
- height (a) = 14.25 in
- width (d) = 12.75,
- thickness = 0.75 in

2 Sides:
- height (a) = 14.25 in
- depth (c) = 12,
- thickness = 0.75 in

VENT Round



- OR -
VENT Square



—Driver Mounting—
Front

Vent Parts --- Round

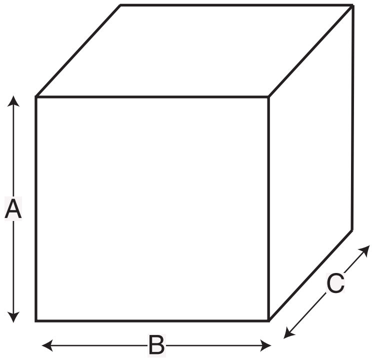
1 Duct: outside diameter (e) = 3.2
- inside diameter (g) = 3 in
- length (h) = 9.5 in

Vent Parts --- Square

1 Top, 1 Bottom:
- width (e) = 3,
- length (h) = 10 in
- thickness = 0.125 in

2 Sides:
- height (g) = 2.75,
- length (h) = 10 in
- thickness = 0.125 in

Cobalt CO124S Sealed Enclosure Recommendations



External Dimensions

A = 15.5 in
B = 14.75 in
C = 12 in

Internal Dimensions

A = 14 in
B = 13.25 in
C = 10.5 in

Wall Thickness

Front = 0.75 in
Side = 0.75 in

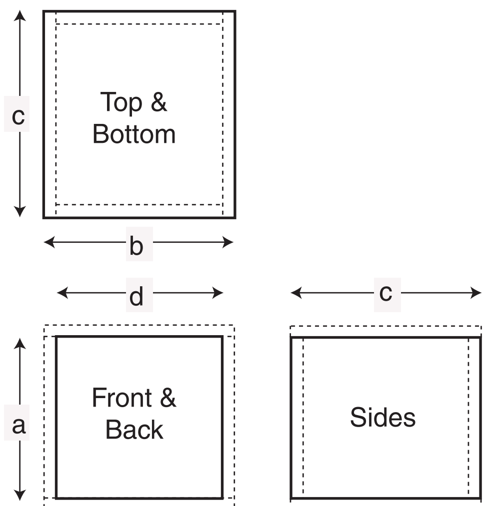


Figure 8
Figura 8
Abbildung 8

—Box Parts—

Box Shape: Square Prism

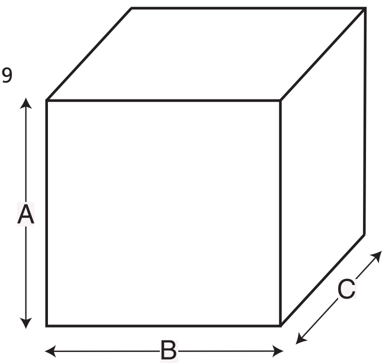
1 Top, 1 Bottom:
depth (c) = 12 in
width (b) = 14.75,
thickness = 0.75 in

1 Front, 1 Back:
height (a) = 14 in
width (d) = 13.25,
thickness = 0.75 in

2 Sides:
height (a) = 14 in
depth (c) = 12,
thickness = 0.75 in

Driver Mounting
Mounting: Front

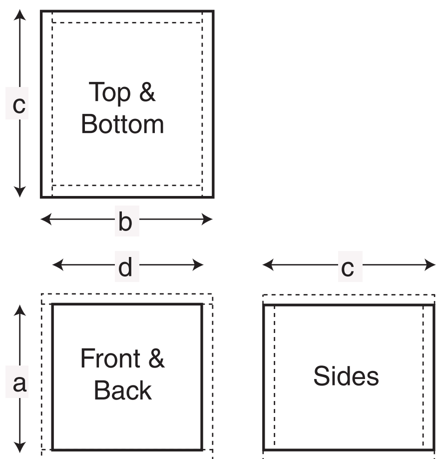
Figure 9
Figura 9
Abbildung 9



External Dimensions
- A = 18 in
- B = 16.75 in
- C = 13 in

Internal Dimensions
- A = 16.5 in
- B = 15.25 in
- C = 11.5 in

Wall Thickness
- Front = 0.75 in
- Side = 0.75 in



—Box Parts—

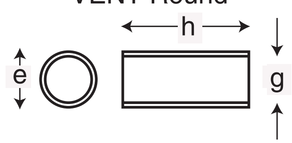
Box Shape: Square Prism

1 Top, 1 Bottom:
- depth (c) = 13 in
- width (b) = 16.75,
- thickness = 0.75 in

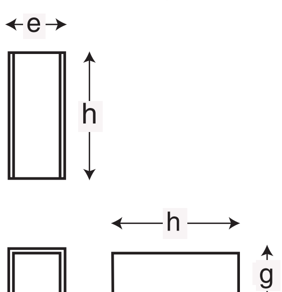
1 Front, 1 Back:
- height (a) = 16.5 in
- width (d) = 15.25,
- thickness = 0.75 in

2 Sides:
- height (a) = 16.5 in
- depth (c) = 13,
- thickness = 0.75 in

VENT Round



- OR -
VENT Square



Driver Mounting
Mounting: Front

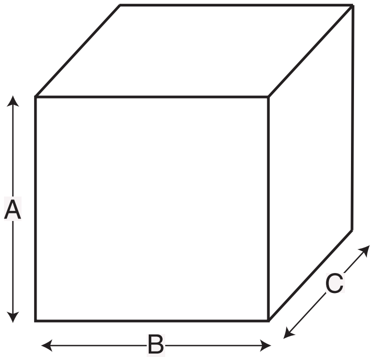
Vent Parts --- Round

1 Duct:
- outside diameter (e) = 4.2
- inside diameter (g) = 4 in
- length (h) = 10 in

Vent Parts --- Square

1 Top, 1 Bottom:
- width (e) = 3.75,
- length (h) = 10 in
- thickness = 0.125 in

2 Sides:
- height (g) = 3.5,
- length (h) = 10 in
- thickness = 0.125 in



External Dimensions
A = 25 in
B = 17.5 in
C = 11.5 in
Internal Dimensions
A = 23.5 in
B = 16 in
C = 10 in
Wall Thickness
Front = 0.75 in
Side = 0.75 in

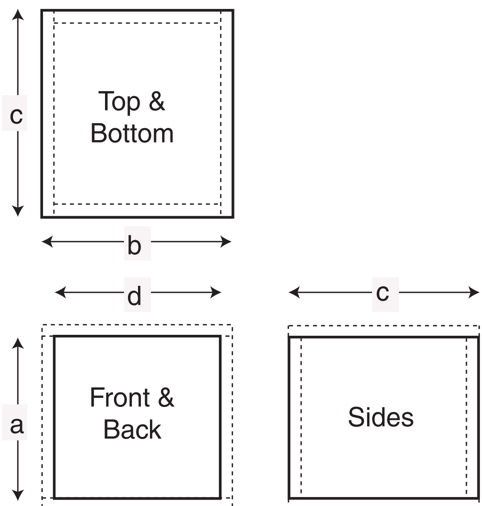
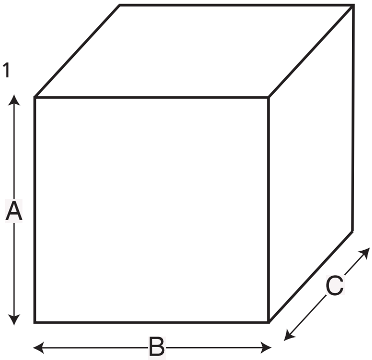


Figure 10
Figura 10
Abbildung 10

—Box Parts—
Box Shape: Square Prism
1 Top, 1 Bottom:
depth (c) = 11.5 in
width (b) = 17.5,
thickness = 0.75 in
1 Front, 1 Back:
height (a) = 23.5 in
width (d) = 16,
thickness = 0.75 in
2 Sides:
height (a) = 23.5 in
depth (c) = 11.5,
thickness = 0.75 in

Driver Mounting
Mounting: Front

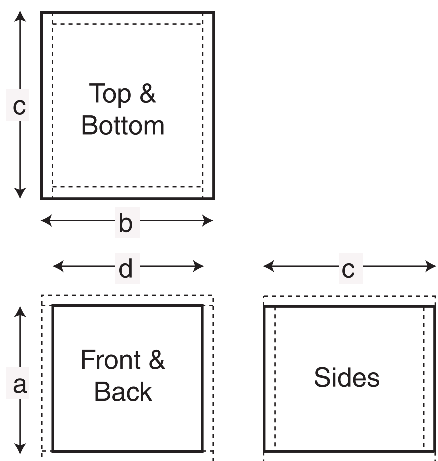
Figure 11
Figura 11
Abbildung 11



External Dimensions
- A = 25 in
- B = 17.5 in
- C = 13 in

Internal Dimensions
- A = 23.5 in
- B = 16 in
- C = 11.5 in

Wall Thickness
- Front = 0.75 in
- Side = 0.75 in



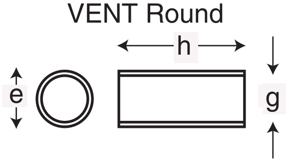
—Box Parts—
Box Shape: Square Prism

1 Top, 1 Bottom:
- depth (c) = 13 in
- width (b) = 17.5,
- thickness = 0.75 in

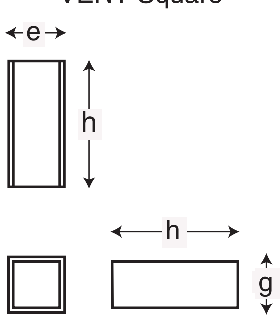
1 Front, 1 Back:
- height (a) = 23.5 in
- width (d) = 16,
- thickness = 0.75 in

2 Sides:
- height (a) = 23.5 in
- depth (c) = 13,
- thickness = 0.75 in

VENT Round



\- OR -
VENT Square



Driver Mounting
Mounting: Front

Vent Parts --- Round
1 Duct: outside diameter (e)
- inside diameter (g) = 4 i
- length (h) = 7 in

Vent Parts --- Square
1 Top, 1 Bottom:
- width (e) = 4.25,
- length (h) = 7 in
- thickness = 0.125 in

2 Sides:
- height (g) = 4,
- length (h) = 7 in
- thickness = 0.125 in

SPECIFICATIONS

Model/Part Number	CO104S	CO124S	CO154S
Thiele/Small Parameters			
Fs (free-air resonance, Hz)	39.2	25.6	25.2
Vas (equivalent compliance, cu. ft.)	1.080	4.017	7.098
Vas (equivalent compliance, liters)	30.600	113.790	201.070
Qms (Q, mechanical)	3.53	4.72	6.08
Qes (Q, electrical)	0.68	0.55	0.51
Qts (total driver Q)	0.57	0.49	0.47
Re (DC resistance, ohms)	3.6	3.55	3.77
Z (nominal impedance, ohms)	4	4	4
Le (inductance, mh)	1.38	1.37	1.61
Efficiency (1W @ 1M, dB)	86.1	87.2	89.9
Xmax (one way linear excursion, in.)	0.406	0.410	0.453
Xmax (one way linear excursion, mm)	10.2925	10.4075	11.5
Pe (continuous power handling, watts)	200	200	250
Peak power handling (music, watts)	400	500	600
Mms (total moving mass, grams)	101.00	127	195
Cms (mechanical compliance, mm/N)	0.180564	0.294721	0.211994
Bl (motor strength, Tesla-M)	10.88	11.61	14.82
Sd (effective radiating area, sq. cm.)	346.361	522.792	819.398
Sd (effective radiating area, sq. in.)	53.706	81.064	127.055
Frequency range (Hz)	39 - 250Hz	25 - 250Hz	25 - 250Hz
Energy Bandwidth Product (EBP)	58	47	49
Driver Physical Dimension			
Speaker Displacement (cu ft)	0.048	0.061	0.116
Speaker Outer Diameter (inches/mm)	10.31/ 262	12.40/ 315	15.40/ 391
Mounting hole diameter (inches/mm)	9.23/ 232	10.91/ 277	13.82/ 351
Mounting depth (inches/mm)	5.12/ 130	5.51/ 140	6.46/ 164
Magnet Weight (Oz)	38.60	41	70
Basket diameter (inches/mm)	10.16/258	12.21/310	15.16/385
Recommended Enclosures			
Typical sealed enclosure (cu. ft.)	0.75	1	2

Specifications subject to change without notice

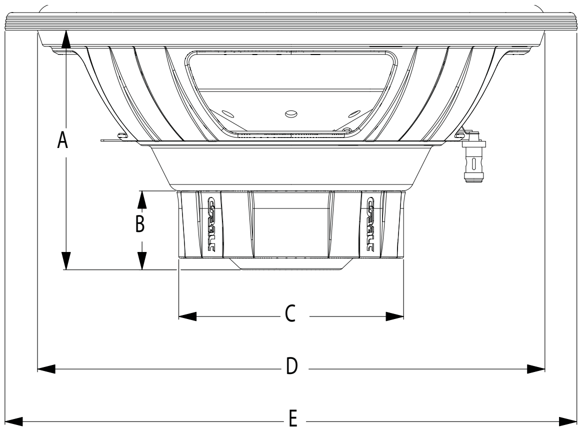
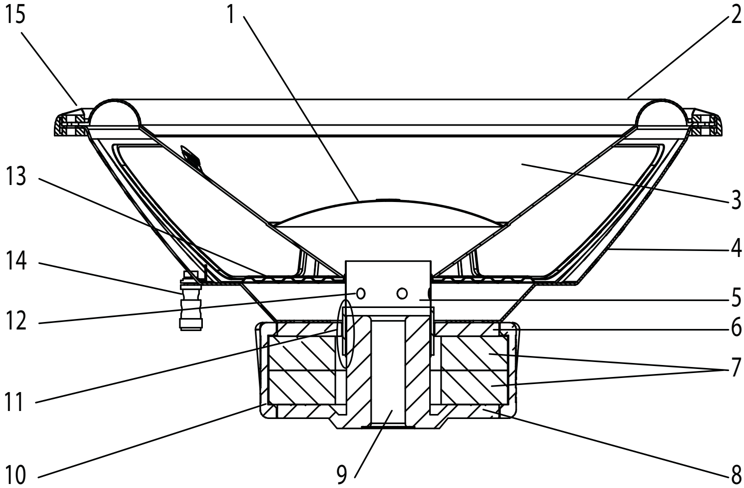


Figure 12
Figura 12
Abbildung 12

	CO104S	CO124S	CO154S
Dimensions inches/mm, Dimensions po/mm, Dimensiones plg./mm, Abmessungen Zoll/mm, Dimensioni pollici/millimetri, Dimensões polegadas/mm			
A	5.12/130	5.51/140	6.46/164
B	1.97/50	1.97/50	2.01/51
C	4.96/126	5.00/127	5.71/145
D	9.13/232	10.91/277	13.82/351
E	10.16/258	12.20/310	15.16/385

CARACTÉRISTIQUES



1	Cache-poussière en polypropylène — résiste à l'humidité et aux ultraviolets
2	Panneau surdimensionné en nitrile pour un mouvement long à contrôle linéaire
3	Membrane de papier ventilée — résiste à l'humidité et aux ultra-violets
4	Cadre sur mesure en acier matricé
5	Gabarit ventilé Kapton de bobine acoustique (les modèles 10” et 12" utilisent le gabarit 1,5", le modèle 15” utilisent le gabarit 2")
6	Platine avant en acier de 8 mm
7	2 grands aimants en céramique
8	Platine arrière/collier T polaire en acier 8 mm
9	Évent de 0,75". Élément du système amélioré de refroidissement de la bobine acoustique (convection forcée)
10	Protecteur d'aimant en PVC
11	Bobine acoustique 4 ohms en cuivre résistant aux hautes températures
12	Évent du gabarit de bobine acoustique. Élément du système amélioré de refroidissement de la bobine acoustique (convection forcée)
13	Anneau de centrage Conex entrelacé avec fils rosettes piqués et bouclés joints
14	Bornes-poussoirs
15	Joint de montage réversible en PVC

CONFIGURATIONS DE CÂBLAGE

Les illustrations suivantes fournissent des indications sur le câblage correct de votre haut-parleur Orion Cobalt à un amplificateur Orion Cobalt pour un rendement optimal.

Puissance d'amplificateur recommandée

	Puissance continue (RMS)	Puissance de crête (watts)
1 haut-parleur	100 à 300	200 à 600
2 haut-parleurs	200 à 600	400 à 1200
3 haut-parleurs	300 à 900	600 à 1800
4 haut-parleurs	400 à 1200	800 à 2400

Parallèle — Deux haut-parleurs (bobines acoustiques 4 ohms)

Deux haut-parleurs à bobine acoustique de 4 ohms en parallèle résultent en une charge de 2 ohms pour l'amplificateur.

1. Raccordez le haut-parleur en parallèle en raccordant les deux bornes positives (+) d'une part et les deux bornes négatives (-) d'autre part.

2. Raccordez les bornes positives (+) des haut-parleurs à la borne positive (+) de l'amplificateur. Raccordez les bornes négatives (-) des haut-parleurs à la borne négative (-) de l'amplificateur (figure 2).

Un haut-parleur (bobine acoustique 4 ohms)

Un haut-parleur à bobine acoustique de 4 ohms résulte en une charge de 4 ohms pour l'amplificateur.

1. Raccordez le haut-parleur en raccordant la borne positive (+) du haut-parleur à la borne positive (+) de l'amplificateur. Raccordez la borne négative (-) du haut-parleur à la borne négative (-) de l'amplificateur (figure 3).

Série — Deux haut-parleurs (bobines acoustiques simples 4 ohms)

Deux haut-parleurs à bobine acoustique simple de 4 ohms en série résultent en une charge de 8 ohms pour l'amplificateur.

1. Raccordez le haut-parleur en série en raccordant la borne négative (-) d'une bobine à la borne positive (+) de l'autre bobine.

2. Raccordez la borne positive (+) de la première bobine à la borne positive (+) de l'amplificateur. Raccordez la borne négative (-) de la seconde bobine à la borne négative (-) de l'amplificateur (figure 4).

Série/parallèle — 4 haut-parleurs (bobines 4 ohms simples)

Quatre caissons de basses à bobines acoustiques simples de 4 ohms, les bobines acoustiques de chaque paire de haut-parleurs raccordées en série et les quatre haut-parleurs raccordés en parallèle, résultent en une charge de 4 ohms pour l'amplificateur.

1. Raccordez la borne négative (-) du haut-parleur #1 à la borne négative du haut-parleur #3, puis raccordez ce câble à la borne négative (-) de l'amplificateur.

2. Raccordez la borne positive (+) du haut-parleur #1 à la borne négative du haut-parleur #2.

3. Raccordez la borne positive (+) du haut-parleur #3 à la borne négative du haut-parleur #4.

4. Raccordez la borne positive (+) du haut-parleur #2 à la borne positive (+) du haut-parleur #4, puis raccordez ce câble à la borne positive (+) de l'amplificateur (figure 5).

NOTE: Diagramme de référence aux pages 4 - 7

RECOMMANDATIONS SUR LES ENCEINTES

Détails des enceintes

1. Dimensions externes calculées pour des matériaux de 3/4”
2. Inclut le volume d'encombrement des haut-parleurs
3. Les volumes indiqués sont le volume d'accord net
4. Les enceintes contiennent une quantité minimale de matériaux d'amortissement. Il suffit de prévoir assez de tissu pour le revêtement intérieur de l'enceinte.

Recommandations pour l'enceinte close Cobalt CO104S (Figure 6)

Dimensions externes
A = 14"
B = 12,5"
C = 11,5"
Dimensions internes
A = 12,5"
B = 11"
C = 10"
Épaisseur de la cloison
Avant = 0,75"
Côté = 0,75"

— Parties du boîtier —
Forme: prisme carré
1 haut, 1 bas
Profondeur (c) = 11,5"
Largeur (b) = 12,5"
Épaisseur = 0,75"
1 avant, 1 arrière
Hauteur (a) = 12,5"
Profondeur (d) = 11"
Épaisseur = 0,75"
2 côtés: Hauteur (a) = 12,5"
Profondeur (c) = 11,5"
Épaisseur = 0,75"

— Montage moteur —
Avant

Recommandations pour l'enceinte ventilée Cobalt CO104S (Figure 7)

Dimensions externes
A = 15,75"
B = 14,25"
C = 12"
Dimensions internes
A = 14,25"
B = 12,75"
C = 10,5"
Épaisseur de la cloison
Avant = 0,75"
Côté = 0,75"

— Parties du boîtier —
Forme: prisme carré
1 haut, 1 bas:
Profondeur (c) = 12"
Largeur (b) = 14,25"
Épaisseur = 0,75"
1 avant, 1 arrière:
Hauteur (a) = 14,25"
Profondeur (d) = 12,75"
Épaisseur = 0,75"
2 côtés:
Hauteur (a) = 14,25"
Profondeur (c) = 12"
Épaisseur = 0,75"

— Montage moteur —
Avant

Pièces d'évent — rond
1 conduit: diamètre extérieur (e) = 3,25"
Diamètre intérieur (g) = 3"
Longueur (h) = 9,5"

Pièces d'évent — carré
1 haut, 1 bas:
Largeur (e) = 3"
Longueur (h) = 10"
Épaisseur = 0,125"
2 côtés:
Hauteur (g) = 2,75"
Longueur (h) = 10"
Épaisseur = 0,125"

NOTE: Diagramme de référence aux pages 8 - 13

Recommandations pour l'enceinte close Cobalt CO124S (Figure 8)

Dimensions externes
A = 15,5"
B = 14,75"
C = 12"
Dimensions internes
A = 14"
B = 13,25"
C = 10,5"
Épaisseur de la cloison
Avant = 0,75"
Côté = 0,75"

— Parties du boîtier —
Forme: prisme carré
1 haut, 1 bas:
Profondeur (c) = 12"
Largeur (b) = 14,75"
Épaisseur = 0,75"
1 avant, 1 arrière:
Hauteur (a) = 14"
Profondeur (d) = 13,25"
Épaisseur = 0,75"
2 côtés:
Hauteur (a) = 14"
Profondeur (c) = 12"
Épaisseur = 0,75"

— Montage moteur —
Avant

Recommandations pour l'enceinte ventilée Cobalt CO124S (Figure 9)

Dimensions externes
A = 18"
B = 16,75"
C = 13"
Dimensions internes
A = 16,5"
B = 15,25"
C = 11,5"
Épaisseur de la cloison
Avant = 0,75"
Côté = 0,75"

— Parties du boîtier —
Forme: prisme carré
1 haut, 1 bas:
Profondeur (c) = 13"
Largeur (b) = 16,75"
Épaisseur = 0,75"
1 avant, 1 arrière:
Hauteur (a) = 16,5"
Profondeur (d) = 15,25"
Épaisseur = 0,75"
2 côtés:
Hauteur (a) = 16,5"
Profondeur (c) = 13"
Épaisseur = 0,75"

— Montage moteur —
Avant

Pièces d'évent — rond
1 conduit: Diamètre extérieur (e) = 4,25"
Diamètre intérieur (g) = 4"
Longueur (h) = 10"

Pièces d'évent — carré
1 haut, 1 bas:
Largeur (e) = 3,75"
Longueur (h) = 10"
Épaisseur = 0,125"
2 côtés:
Hauteur (g) = 3,5"
Longueur (h) = 10"
Épaisseur = 0,125"

Recommandations pour l'enceinte close Cobalt CO154S (Figure 10)

Dimensions externes
A = 25"
B = 17,5"
C = 11,5"
Dimensions internes
A = 23,5"
B = 16"
C = 10"
Épaisseur de la cloison
Avant = 0,75"
Côté = 0,75"

— Parties du boîtier —
Forme: prisme carré
1 haut, 1 bas:
Profondeur (c) = 11,5"
Largeur (b) = 17,5"
Épaisseur = 0,75"
1 avant, 1 arrière:
Hauteur (a) = 23,5"
Profondeur (d) = 16"
Épaisseur = 0,75"
2 côtés:
Hauteur (a) = 23,5"
Profondeur (c) = 11,5"
Épaisseur = 0,75"

— Montage moteur —
Avant

Recommandations pour l'enceinte ventilée Cobalt CO154S (Figure 11)

Dimensions externes
A = 25"
B = 17,5"
C = 13"
Dimensions internes
A = 23,5"
B = 16"
C = 11,5"
Épaisseur de la cloison
Avant = 0,75"
Côté = 0,75"

— Parties du boîtier —
Forme: prisme carré
1 haut, 1 bas:
Profondeur (c) = 13"
Largeur (b) = 17,5"
Épaisseur = 0,75"
1 avant, 1 arrière:
Hauteur (a) = 23,5"
Profondeur (d) = 16"
Épaisseur = 0,75"
2 côtés:
Hauteur (a) = 23,5"
Profondeur (c) = 13"
Épaisseur = 0,75"

— Montage moteur —
Avant

Pièces d'évent — rond
1 conduit: diamètre extérieur (e) = 4,25"
Diamètre intérieur (g) = 4"
Longueur (h) = 7"

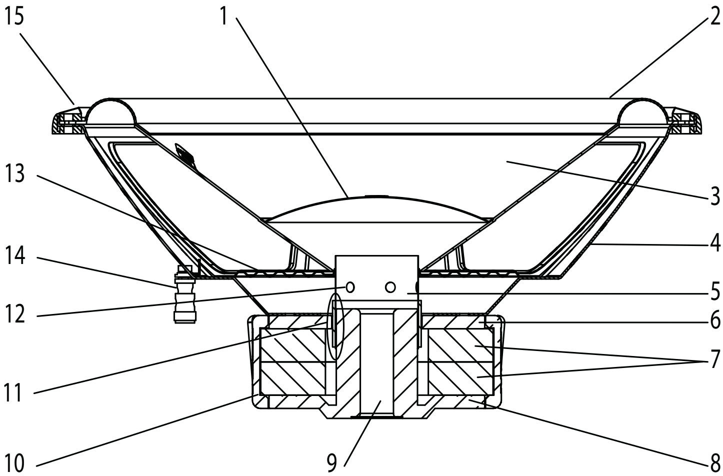
Pièces d'évent — carré
1 haut, 1 bas:
Largeur (e) = 4,25"
Longueur (h) = 7"
Épaisseur = 0,125"
2 côtés:
Hauteur (g) = 4"
Longueur (h) = 7"
Épaisseur = 0,125"

SPÉCIFICATIONS

Modèle/Numéro de pièce Directed	CO104S	CO124S	CO154S
Paramètres Thiele/Small			
Fs (résonance air libre, Hz)	39.2	25.6	25.2
Vas (volume d'air équivalent, pi cu)	1.080	4.017	7.098
Vas (volume d'air équivalent, litres)	30.600	113.790	201.070
Qms (facteur de qualité mécanique)	3.53	4.72	6.08
Qes (facteur de qualité électrique)	0.68	0.55	0.51
Qts (facteur de qualité total)	0.57	0.49	0.47
Re (résistance CC, ohms)	3.6	3.55	3.77
Z (impédance nominale, ohms)	4	4	4
Le (inductance, mh)	1.38	1.37	1.61
Efficacité (1W @ 1M, dB)	86.1	87.2	89.9
Xmax (déplacement de la bobine, po)	0.406	0.410	0.453
Xmax (déplacement de la bobine, mm)	10.2925	10.4075	11.5
Pe (puissance continue, watts)	200	200	250
Puissance de pointe (musique, watts)	400	500	600
Mms (masse mobile totale, grammes)	101.00	127	195
Cms (élasticité de suspension de la membrane, mm/N)	0.180564	0.294721	0.211994
Bl (puissance du moteur, Tesla-M)	10.88	11.61	14.82
Sd (surface émissive de la membrane, cm²)	346.361	522.792	819.398
Sd (surface émissive de la membrane, po²)	53.706	81.064	127.055
Gamme de fréquences (Hz)	39 - 250Hz	25 - 250Hz	25 - 250Hz
Produit du rendement par la bande passante (EBP)	58	47	49
Dimensions du moteur			
Encombrement du haut-parleur (pi cu)	0.048	0.061	0.116
Diamètre extérieur du haut-parleur (po/mm)	10.31/ 262	12.40/ 315	15.40/ 391
Diamètre du trou de montage (po/mm)	9.23/ 232	10.91/ 277	13.82/ 351
Profondeur de montage (po/mm)	5.12/ 130	5.51/ 140	6.46/ 164
Poids de l'aimant (oz)	38.60	41	70
Diamètre du panier (po/mm)	10.16/258	12.21/310	15.16/385
Enceintes recommandées			
Enceinte close typique (pi cu)	0.75	1	2

Spécifications sujettes à changement sans préavis

CARACTERÍSTICAS



1	Tapa de polipropileno contra el polvo; resistente a la humedad y a los rayos ultravioleta.
2	Envolvente grande de Goma de Butadieno de Nitrilo (Nitrile Butadiene Rubber, NBR) para grandes desplazamientos lineales controlados.
3	Cono de papel ventilado; resistente a la humedad y a los rayos ultravioleta.
4	Armazón de acero troquelado a la medida.
5	Formador de bobina de voz Kapton ventilado (1.5 plg. para altavoces de 10 y 12 plg., 2 plg. para altavoces de 15 plg.)
6	Plancha delantera de acero de 8 mm.
7	Imanes grandes de cerámica de dos pilas.
8	Unidad de yugo en T de pieza polar y plancha trasera de acero de 8 mm.
9	Respiradero de 0.75 plg.; parte del sistema de enfriamiento de bobina de voz mejorado (convección forzada).
10	Protector de imán de PVC.
11	Bobina de voz de 4Ω de cobre de alta temperatura.
12	Respiradero en el formador de la bobina de voz; parte del sistema de enfriamiento de bobina de voz mejorado (convección forzada).
13	Araña Conex entrelazada con conductores de oropel bordado y enlazado.
14	Terminales a presión.
15	Junta de montaje de PVC reversible.

CONFIGURACIONES DE CABLEADO

Las siguientes ilustraciones contienen las pautas para conectar correctamente el woofer Orion Cobalt a un amplificador Orion Cobalt a fin de lograr el rendimiento máximo..

Potencia de amplificador recomendada

	Potencia continua (RMS)	Potencia máxima (W)
1 woofer	100 a 300	200 a 600
2 woofers	200 a 600	400 a 1200
3 woofers	300 a 900	600 a 1800
4 woofers	400 a 1200	800 a 2400

En paralelo. Dos altavoces (una bobina de voz de 4 Ω cada uno)

Dos woofers, con una bobina de voz de 4 Ω cada uno y las bobinas de voz en paralelo producen una carga de 2 Ω en el amplificador..

1. Conecte el altavoz en paralelo conectando las dos terminales positivas (+) entre sí y las dos terminales negativas (-) entre sí.

2. Conecte las terminales positivas (+) de los woofers a la terminal positiva (+) del amplificador. Conecte las terminales negativas (-) de los woofers a la terminal negativa (-) del amplificador (figura 2).

Un altavoz (una bobina de voz de 4 Ω)

Un woofer con bobina de voz de 4 Ω produce una carga de 4 Ω en el amplificador.

1. Conecte el altavoz conectando la terminal positiva (+) del woofer a la terminal positiva (+) del amplificador. Conecte la terminal negativa (-) del woofer a la terminal negativa (-) del amplificador (figura 3).

En serie. Dos altavoces (una bobina de voz de 4 Ω cada uno)

Dos subwoofers, con una bobina de voz de 4 Ω cada uno y las bobinas de voz en serie producen una carga de 8 Ω en el amplificador.

1. Conecte el woofer en serie conectando la terminal negativa (-) de una de las bobinas a la terminal positiva (+) de la otra bobina.

2. Conecte la terminal positiva (+) de la primera bobina a la terminal positiva (+) del amplificador. Conecte la terminal negativa (-) de la segunda bobina a la terminal negativa (-) del amplificador (figura 4).

En serie / en paralelo. 4 altavoces (una bobina de voz de 4 Ω cada uno)

Cuatro subwoofers, con una bobina de voz de 4 Ω cada uno, las bobinas de voz de cada par en serie y los 4 altavoces en paralelo producen una carga de 4 Ω en el amplificador.

1. Conecte la terminal negativa (-) del altavoz 1 a la terminal negativa (-) del altavoz 3 y luego conecte esa terminal a la terminal negativa (-) del amplificador.

2. Conecte la terminal positiva (+) del altavoz 1 a la terminal negativa (-) del altavoz 2

3. Conecte la terminal positiva (+) del altavoz 3 a la terminal negativa (-) del altavoz 4

4. Conecte la terminal positiva (+) del altavoz 2 a la terminal positiva (+) del altavoz 4 y luego conecte esa terminal a la terminal positiva (+) del amplificador. (figura 5)

Consulte el diagrama de las páginas 4 - 7

RECOMENDACIONES PARA LA CAJA

Detalles de la caja

1. Las dimensiones externas se han calculado para un material de construcción de ¾ plg. de grosor
2. Incluye el desplazamiento del altavoz
3. Los volúmenes que se dan son volúmenes de sintonización neta
4. Las cajas contienen una cantidad mínima de material amortiguador. Se necesita sólo material suficiente para recubrir la superficie interna de la caja.

Recomendaciones para la caja sellada Cobalt CO104S (figura 6)

Dimensiones externas
A = 14 plg.
B = 12.5 plg.
C = 11.5 plg.

Dimensiones internas
A = 12.5 plg.
B = 11 plg.
C = 10 plg.

Grosor de la pared
Delantera = 0.75 plg.
Lateral = 0.75 plg.

— Piezas de la caja —
Forma de la caja: prisma cuadrado
1 arriba, 1 abajo:
fondo (c) = 11.5 plg.
ancho (b) = 12.5 plg.
grosor = 0.75 plg.

1 adelante, 1 atrás:
altura (a) = 12.5 plg.
ancho (d) = 11 plg.
grosor = 0.75 plg.

1 a cada lado:
altura (a) = 12.5 plg.
fondo (c) = 11.5 plg.
grosor = 0.75 plg.
— Montaje del excitador —
Adelante

Recomendaciones para la caja ventilada Cobalt CO104S (figura 7)

Dimensiones externas
A = 15.75 plg.
B = 14.25 plg.
C = 12 plg.

Dimensiones internas
A = 14.25 plg.
B = 12.75 plg.
C = 10.5 plg.

Grosor de la pared
Delantera = 0.75 plg.
Lateral = 0.75 plg.

— Piezas de la caja —
Forma de la caja: prisma cuadrado
1 arriba, 1 abajo:
fondo (c) = 12 plg.
ancho (b) = 14.25 plg.
grosor = 0.75 plg.

1 adelante, 1 atrás:
altura (a) = 14.25 plg.
ancho (d) = 12.75 plg.
grosor = 0.75 plg.

1 a cada lado:
altura (a) = 14.25 plg.
fondo (c) = 12 plg.
grosor = 0.75 plg.

— Montaje del excitador —
Adelante

Piezas del respiradero --- redondo
1 conducto: diámetro externo (e) = 3.25 plg.
diámetro interno (g) = 3 plg.
longitud (h) = 9.5 plg.

Piezas del respiradero --- cuadrado
1 arriba, 1 abajo:
ancho (e) = 3 plg.
longitud (h) = 10 plg.
grosor = 0.125 plg.

1 a cada lado:
altura (g) = 2.75 plg.
longitud (h) = 10 plg.
grosor = 0.125 plg.

Consulte el diagrama de las páginas 8 - 13

Recomendaciones para la caja sellada Cobalt CO124S (figura 8)

Dimensiones externas
A = 15.5 plg.
B = 14.75 plg.
C = 12 plg.

Dimensiones internas
A = 14 plg.
B = 13.25 plg.
C = 10.5 plg.

Grosor de la pared
Delantera = 0.75 plg.
Lateral = 0.75 plg.

— Piezas de la caja —
Forma de la caja: prisma cuadrado
1 arriba, 1 abajo:
fondo (c) = 12 plg.
ancho (b) = 14.75 plg.
grosor = 0.75 plg.

1 adelante, 1 atrás:
altura (a) = 14 plg.
ancho (d) = 13.25 plg.
grosor = 0.75 plg.

1 a cada lado:
altura (a) = 14 plg.
fondo (c) = 12 plg.
grosor = 0.75

Montaje del excitador
Montaje: adelante

Recomendaciones para la caja ventilada Cobalt CO124S (figura 9)

Dimensiones externas
A = 18 plg.
B = 16.75 plg.
C = 13 plg.

Dimensiones internas
A = 16.5 plg.
B = 15.25 plg.
C = 11.5 plg.

Grosor de la pared
Delantera = 0.75 plg.
Lateral = 0.75 plg.

— Piezas de la caja —
Forma de la caja: prisma cuadrado
1 arriba, 1 abajo:
fondo (c) = 13 plg.
ancho (b) = 16.75 plg.
grosor = 0.75 plg.

1 adelante, 1 atrás:
altura (a) = 16.5 plg.
ancho (d) = 15.25 plg.
grosor = 0.75 plg.

1 a cada lado:
altura (a) = 16.5 plg.
fondo (c) = 13 plg.
grosor = 0.75 plg.

Montaje del excitador
Montaje: adelante

Piezas del respiradero --- redondo
1 conducto: diámetro externo (e) = 4.25 plg.
diámetro interno (g) = 4 plg.
longitud (h) = 10 plg.

Piezas del respiradero --- cuadrado
1 arriba, 1 abajo:
ancho (e) = 3.75 plg.
longitud (h) = 10 plg.
grosor = 0.125 plg.

1 a cada lado:
altura (g) = 3.5 plg.
longitud (h) = 10 plg.
grosor = 0.125 plg.

Recomendaciones para la caja sellada Cobalt CO154S (figura 10)

Dimensiones externas
A = 25 plg.
B = 17.5 plg.
C = 11.5 plg.

Dimensiones internas
A = 23.5 plg.
B = 16 plg.
C = 10 plg.

Grosor de la pared
Delantera = 0.75 plg.
Lateral = 0.75 plg.

— Piezas de la caja —
Forma de la caja: prisma cuadrado
1 arriba, 1 abajo:
fondo (c) = 11.5 plg.
ancho (b) = 17.5 plg.
grosor = 0.75 plg.

1 adelante, 1 atrás:
altura (a) = 23.5 plg.
ancho (d) = 16 plg.
grosor = 0.75 plg.

1 a cada lado:
altura (a) = 23.5 plg.
fondo (c) = 11.5 plg.
grosor = 0.75 plg.

Montaje del excitador
Montaje: adelante

Recomendaciones para la caja sellada Cobalt CO154S (figura 11)

Dimensiones externas
A = 25 plg.
B = 17.5 plg.
C = 13 plg.

Dimensiones internas
A = 23.5 plg.
B = 16 plg.
C = 11.5 plg.

Grosor de la pared
Delantera = 0.75 plg.
Lateral = 0.75 plg.

— Piezas de la caja —
Forma de la caja: prisma cuadrado
1 arriba, 1 abajo:
fondo (c) = 13 plg.
ancho (b) = 17.5 plg.
grosor = 0.75 plg.

1 adelante, 1 atrás:
altura (a) = 23.5 plg.
ancho (d) = 16 plg.
grosor = 0.75 plg.

1 a cada lado:
altura (a) = 23.5 plg.
fondo (c) = 13 plg.
grosor = 0.75 plg.

Montaje del excitador
Montaje: adelante

Piezas del respiradero --- redondo
1 conducto: diámetro externo (e) = 4.25 plg.
diámetro interno (g) = 4 plg.
longitud (h) = 7 plg.

Piezas del respiradero --- cuadrado
1 arriba, 1 abajo:
ancho (e) = 4.25 plg.
longitud (h) = 7 plg.
grosor = 0.125 plg.

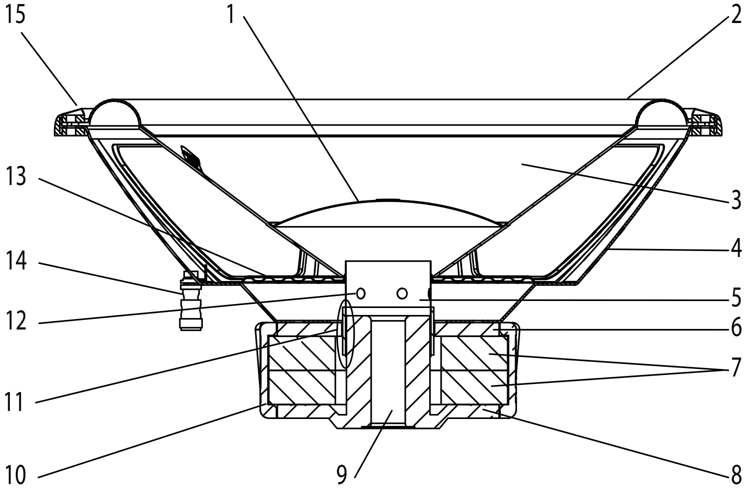
1 a cada lado:
altura (g) = 4 plg.
longitud (h) = 7 plg.
grosor = 0.125 plg.

ESPECIFICACIONES

Modelo/Número de pieza dirigido	CO104S	CO124S	CO154S
Parámetros Thiele/Small			
Fs (resonancia al aire libre, Hz)	39.2	25.6	25.2
Vas (cumplimiento de equivalencia, pies3)	1.080	4.017	7.098
Vas (cumplimiento de equivalencia, litros)	30.600	113.790	201.070
Qms (Q, mecánico)	3.53	4.72	6.08
Qes (Q, eléctrico)	0.68	0.55	0.51
Qts (Q total del excitador)	0.57	0.49	0.47
Re (resistencia CC, Ω)	3.6	3.55	3.77
Z (impedancia nominal, Ω)	4	4	4
Le (inductancia, mH)	1.38	1.37	1.61
Eficiencia (1 W a 1 m, dB)	86.1	87.2	89.9
Xmax (desplazamiento lineal de ida plg.)	0.406	0.410	0.453
Xmax (desplazamiento lineal de ida, mm)	10.2925	10.4075	11.5
Pe (procesamiento continuo de potencia, W)	200	200	250
Procesamiento máximo de potencia (música, W)	400	500	600
Mms (masa total en movimiento, g)	101.00	127	195
Cms (cumplimiento mecánico, mm/N)	0.180564	0.294721	0.211994
Bl (fuerza del motor, Tesla-m)	10.88	11.61	14.82
Sd (área de radiación efectiva, cm²)	346.361	522.792	819.398
Sd (área de radiación efectiva plg.²)	53.706	81.064	127.055
Gama de frecuencias (Hz)	39 - 250Hz	25 - 250Hz	25 - 250Hz
Producto ancho de banda energía (EBP)	58	47	49
Dimensiones físicas del excitador			
Desplazamiento del altavoz (pies³)	0.048	0.061	0.116
Diámetro externo del altavoz (plg./mm)	10.31/ 262	12.40/ 315	15.40/ 391
Diámetro del agujero de montaje (plg./mm)	9.23/ 232	10.91/ 277	13.82/ 351
Profundidad de montaje (plg./mm)	5.12/ 130	5.51/ 140	6.46/ 164
Peso del imán (oz.)	38.60	41	70
Diámetro de la canasta (plg./mm)	10.16/258	12.21/310	15.16/385
Cajas recomendadas			
Caja sellada normal (pies³)	0.75	1	2

Especificaciones sujetas a cambio sin aviso previo

HÖHEPUNKTE



1	Feuchtigkeits- und UV-beständige Polypropylen-Abdeckung
2	Extra große Sicke aus NBR (Nitrilgummi) für linear kontrollierten Langhub
3	Belüftete feuchtigkeits- und UV-beständige Papiermembran
4	Spezieller Stahlblechrahmen
5	Belüfteter Kapton-Schwingspulenträger (10- und 12-Zoll-Modell verwendet 1,5-Zoll-Schwingspulenträger, 15-Zoll-Modell einen 2-Zoll-Schwingspulenträger)
6	8-mm dickes vorderes Abdeckblech
7	Große Double-Stack-Keramikmagneten
8	8-mm dickes hinteres Abdeckblech/Polplatten-T-Stück
9	0,75-Zoll-Öffnung. Teil des verbesserten Schwingspulen-Kühlsystems (Zwangs-Konvektion)
10	PVC-Magnetschutz
11	Hochtemperatur-Kupferschwingspule (4 Ohm)
12	Belüftung des Schwingspulenträgers. Teil des verbesserten Schwingspulen-Kühlsystems (Zwangs-Konvektion)
13	Verknüpfte Conex-Zentriermembran mit gehefteten und geschleiften Zuleitungslitzen
14	Druck-Terminals
15	Umkehrbare PVC-Befestigungsdichtung

SCHALTKONFIGURATIONEN

Die folgenden Abbildungen zeigen, wie Sie Ihren Orion Cobalt-Tieftöner richtig an einen Orion Cobalt-Verstärker anschließen, um die maximale Leistung herauszuholen.

Empfohlene Verstärkerleistung

	RMS-Dauerleistung	Spitzenleistung (Watt)
1 Tieftöner	100 bis 300	200 bis 600
2 Tieftöner	200 bis 600	400 bis 1200
3 Tieftöner	300 bis 900	600 bis 1800
4 Tieftöner	400 bis 1200	800 bis 2400

Parallel — Zwei Lautsprecher (4-Ohm-Schwingspulen)

Zwei parallel geschaltete Tieftöner mit 4-Ohm-Schwingspulen: Lastwiderstand von 2 Ohm am Verstärker

1. Schließen Sie den Lautsprecher parallel an, indem Sie jeweils die beiden positiven (+) Terminals und die beiden negativen (-) Terminals miteinander verbinden.

2. Verbinden Sie die positiven (+) Terminals der Tieftöner mit dem positiven (+) Terminal am Verstärker. Verbinden Sie die negativen (+) Terminals der Tieftöner mit dem negativen (+) Terminal am Verstärker (abbildung 2).

Ein Lautsprecher (4-Ohm-Schwingspule)

Ein Tieftöner mit 4-Ohm-Schwingspule: Lastwiderstand von 4 Ohm am Verstärker.

1. Schließen Sie den Lautsprecher an, indem Sie das positive (+) Terminal des Tieftöners mit dem positiven (+) Terminal am Verstärker verbinden. Verbinden Sie das negative (-) Terminal des Tieftöners mit dem negativen (+) Terminal am Verstärker (abbildung 3).

Reihe — Zwei Lautsprecher (Einzelne 4-Ohm-Schwingspulen)

Zwei einzelne in Reihe geschaltete Subwoofer mit 4-Ohm-Schwingspulen: Lastwiderstand von 8 Ohm am Verstärker.

1. Schließen Sie die Tieftöner in Reihe an, indem Sie das negative (-) Terminal der ersten Tieftöner-Schwingspule mit dem positiven (+) Terminal der zweiten Spule verbinden.

2. Verbinden Sie das positive (+) Terminal der ersten Tieftöner-Schwingspule mit dem positiven (+) Terminal am Verstärker. Verbinden Sie das negative (-) Terminal der zweiten Tieftöner-Schwingspule mit dem negativen (-) Terminal am Verstärker (abbildung 4).

Reihe/Parallel - 4 Lautsprecher (Einzelne 4-Ohm-Schwingspulen)

4 einzelne Subwoofer mit 4-Ohm-Schwingspulen, bei denen die Schwingspulen jedes Lautsprecherpaars in Reihe geschaltet und dann alle 4 Lautsprecher parallel geschaltet sind: Lastwiderstand von 4 Ohm am Verstärker

1. Schließen Sie das negative (-) Terminal an Lautsprecher 1 an das negative Terminal an Lautsprecher 3 an und verbinden Sie diesen Draht mit dem negativen (-) Terminal am Verstärker.

2. Verbinden Sie das positive (+) Terminal am Lautsprecher 1 mit dem negativen (-) Terminal am Lautsprecher 2.

3. Verbinden Sie das positive (+) Terminal am Lautsprecher 3 mit dem negativen (-) Terminal am Lautsprecher 4.

4. Schließen Sie das positive (+) Terminal an Lautsprecher 2 an das positive (+) Terminal an Lautsprecher 4 an und verbinden Sie diesen Draht mit dem positiven (+) Terminal am Verstärker (abbildung 5).

Siehe Diagramm auf Seite 4 - 7

GEHÄUSEEMPFEHLUNGEN

Gehäusedetails

1. Für Baumaterial mit ¾ Zoll (1,9 cm) Dicke berechnete Außenmaße
2. Einschließlich Lautsprecherhub
3. Angegebene Volumen sind Netto-Tuningvolumen
4. Gehäuse besitzen ein Minimum an Dämpfungsmaterial. Es ist gerade genug Material zur Auskleidung der Innenseite des Gehäuses nötig.

Cobalt CO104S Geschlossenes Gehäuse: Empfehlungen (abbildung 6)

Außenmaße
A = 14 Zoll (35,6 cm)
B = 12,5 Zoll (31,8 cm)
C = 11,5 Zoll (29,2 cm)

Innenmaße
A = 12,5 Zoll (31,8 cm)
B = 11 Zoll (27,9 cm)
C = 10 Zoll (25,4 cm)

Wandstärke
Vorn = 0,75 Zoll (1,9 cm)
Seite = 0,75 Zoll (1,9 cm)

— Gehäuseteile —
Gehäuseform: Quader
1 Oberseite, 1 Unterseite:
Tiefe (c) = 11,5 Zoll (29,2 cm)
Breite (b) = 12,5 Zoll (31,8 cm)
Dicke = 0,75 Zoll (1,9 cm)

1 Vorderseite, 1 Rückseite:
Höhe (a) = 12,5 Zoll (31,8 cm)
Breite (d) = 11 Zoll (27,9 cm)
Dicke = 0,75 Zoll (1,9 cm)

2 Seiten:
Höhe (a) = 12,5 Zoll (31,8 cm)
Tiefe (c) = 11,5 Zoll (29,2 cm)
Dicke = 0,75 Zoll (1,9 cm)

— Treibereinbau —
Vorn

Cobalt CO104S Bassreflex-Gehäuse: Empfehlungen (abbildung 7)

Außenmaße
A = 15,75 Zoll (40 cm)
B = 14,25 Zoll (36,2 cm)
C = 12 Zoll (30,5 cm)

Innenmaße
A = 14,25 Zoll (36,2 cm)
B = 12,75 Zoll (32,4 cm)
C = 10,5 Zoll (26,7 cm)

Wandstärke
Vorn = 0,75 Zoll (1,9 cm)
Seite = 0,75 Zoll (1,9 cm)

— Gehäuseteile —
Gehäuseform: Quader
1 Oberseite, 1 Unterseite:
Tiefe (c) = 12 Zoll (30,5 cm)
Breite (b) = 14,25 Zoll (36,2 cm)
Dicke = 0,75 Zoll (1,9 cm)

1 Vorderseite, 1 Rückseite:
Höhe (a) = 14,25 Zoll (36,2 cm)
Breite (d) = 12,75 Zoll (32,4 cm)
Dicke = 0,75 Zoll (1,9 cm)

2 Seiten:
Höhe (a) = 14,25 Zoll (36,2 cm)
Tiefe (c) = 12 Zoll (30,5 cm)
Dicke = 0,75 Zoll (1,9 cm)

— Treibereinbau —
Vorn

Öffnungsteile - Rund
1 Kanal: Außendurchmesser (e) = 3,25 Zoll (8,3 cm)
Innendurchmesser (g) = 3 Zoll (7,6 cm)
Länge (h) = 9,5 Zoll (24,1 cm)

Öffnungsteile - Quadratisch
1 Oberseite, 1 Unterseite:
Breite (e) = 3 Zoll (7,6 cm)
Länge (h) = 10 Zoll (25,4 cm)
Dicke = 0,125 Zoll (0,3 cm)

2 Seiten:
Höhe (g) = 2,75 Zoll (7 cm)
Länge (h) = 10 Zoll (25,4 cm)
Dicke = 0,125 Zoll (0,3 cm)

Siehe Diagramm auf Seite 8 - 13

Cobalt CO124S Geschlossenes Gehäuse: Empfehlungen (abbildung 8)

Außenmaße
A = 15,5 Zoll (39,4 cm)
B = 14,75 Zoll (37,5 cm)
C = 12 Zoll (30,5 cm)

Innenmaße
A = 14 Zoll (35,6 cm)
B = 13,25 Zoll (33,7 cm)
C = 10,5 Zoll (26,7 cm)

Wandstärke
Vorn = 0,75 Zoll (1,9 cm)
Seite = 0,75 Zoll (1,9 cm)

— Gehäuseteile —
Gehäuseform: Quader
1 Oberseite, 1 Unterseite:
Tiefe (c) = 12 Zoll (30,5 cm)
Breite (b) = 14,75 Zoll (37,5 cm)
Dicke = 0,75 Zoll (1,9 cm)

1 Vorderseite, 1 Rückseite:
Höhe (a) = 14 Zoll (35,6 cm)
Breite (d) = 13,25 Zoll (33,7 cm)
Dicke = 0,75 Zoll (1,9 cm)

2 Seiten:
Höhe (a) = 14 Zoll (35,6 cm)
Tiefe (c) = 12 Zoll (30,5 cm)
Dicke = 0,75 Zoll (1,9 cm)

Treibereinbau
Einbau: Vorn

Cobalt CO124S Bassreflex-Gehäuse: Empfehlungen (abbildung 9)

Außenmaße
A = 18 Zoll (45,7 cm)
B = 16,75 Zoll (42,5 cm)
C = 13 Zoll (33 cm)

Innenmaße
A = 16,5 Zoll (41,9 cm)
B = 15,25 Zoll (38,7 cm)
C = 11,5 Zoll (29,2 cm)

Wandstärke
Vorn = 0,75 Zoll (1,9 cm)
Seite = 0,75 Zoll (1,9 cm)

— Gehäuseteile —
Gehäuseform: Quader
1 Oberseite, 1 Unterseite:
Tiefe (c) = 13 Zoll (33 cm)
Breite (b) = 16,75 Zoll (42,5 cm)
Dicke = 0,75 Zoll (1,9 cm)

1 Vorderseite, 1 Rückseite:
Höhe (a) = 16,5 Zoll (41,9 cm)
Breite (d) = 15,25 Zoll (38,7 cm)
Dicke = 0,75 Zoll (1,9 cm)

2 Seiten:
Höhe (a) = 16,5 Zoll (41,9 cm)
Tiefe (c) = 13 Zoll (33 cm)
Dicke = 0,75 Zoll (1,9 cm)

Treibereinbau
Einbau: Vorn

Öffnungsteile - Rund
1 Kanal:
Außendurchmesser (e) = 4,25 Zoll (10,8 cm)
Innendurchmesser (g) = 4 Zoll (10,2 cm)
Länge (h) = 10 Zoll (25,4 cm)

Öffnungsteile - Quadratisch
1 Oberseite, 1 Unterseite:
Breite (e) = 3,75 Zoll (9,5 cm)
Länge (h) = 10 Zoll (25,4 cm)
Dicke = 0,125 Zoll (0,3 cm)

2 Seiten:
Höhe (g) = 3,5 Zoll (8,9 cm)
Länge (h) = 10 Zoll (25,4 cm)
Dicke = 0,125 Zoll (0,3 cm)

Cobalt CO154S Geschlossenes Gehäuse: Empfehlungen (abbildung 10)

Außenmaße
A = 25 Zoll (63,5 cm)
B = 17,5 Zoll (44,5 cm)
C = 11,5 Zoll (29,2 cm)

Innenmaße
A = 23,5 Zoll (59,7 cm)
B = 16 Zoll (40,6 cm)
C = 10 Zoll (25,4 cm)

Wandstärke
Vorn = 0,75 Zoll (1,9 cm)
Seite = 0,75 Zoll (1,9 cm)

— Gehäuseteile —
Gehäuseform: Quader
1 Oberseite, 1 Unterseite:
Tiefe (c) = 11,5 Zoll (29,2 cm)
Breite (b) = 17,5 Zoll (44,5 cm)
Dicke = 0,75 Zoll (1,9 cm)

1 Vorderseite, 1 Rückseite:
Höhe (a) = 23,5 Zoll (59,7 cm)
Breite (d) = 16 Zoll (40,6 cm)
Dicke = 0,75 Zoll (1,9 cm)

2 Seiten:
Höhe (a) = 23,5 Zoll (59,7 cm)
Tiefe (c) = 11,5 Zoll (29,2 cm)
Dicke = 0,75 Zoll (1,9 cm)

Treibereinbau
Einbau: Vorn

Cobalt CO154S Bassreflex-Gehäuse: Empfehlungen (abbildung 11)

Außenmaße
A = 25 Zoll (63,5 cm)
B = 17,5 Zoll (44,5 cm)
C = 13 Zoll (33 cm)

Innenmaße
A = 23,5 Zoll (59,7 cm)
B = 16 Zoll (40,6 cm)
C = 11,5 Zoll (29,2 cm)

Wandstärke
Vorn = 0,75 Zoll (1,9 cm)
Seite = 0,75 Zoll (1,9 cm)

— Gehäuseteile —
Gehäuseform: Quader
1 Oberseite, 1 Unterseite:
Tiefe (c) = 13 Zoll (33 cm)
Breite (b) = 17,5 Zoll (44,5 cm)
Dicke = 0,75 Zoll (1,9 cm)

1 Vorderseite, 1 Rückseite:
Höhe (a) = 23,5 Zoll (59,7 cm)
Breite (d) = 16 Zoll (40,6 cm)
Dicke = 0,75 Zoll (1,9 cm)

2 Seiten:
Höhe (a) = 23,5 Zoll (59,7 cm)
Tiefe (c) = 13 Zoll (33 cm)
Dicke = 0,75 Zoll (1,9 cm)

Treibereinbau
Einbau: Vorn

Öffnungsteile - Rund
1 Kanal: Außendurchmesser (e) = 4,25 Zoll (10,8 cm)
Innendurchmesser (g) = 4 Zoll (10,2 cm)
Länge (h) = 7 Zoll (17,8 cm)

Öffnungsteile – Quadratisch 1 Oberseite, 1 Unterseite:
Breite (e) = 4,25 Zoll (10,8 cm)
Länge (h) = 7 Zoll (17,8 cm)
Dicke = 0,125 Zoll (0,3 cm)

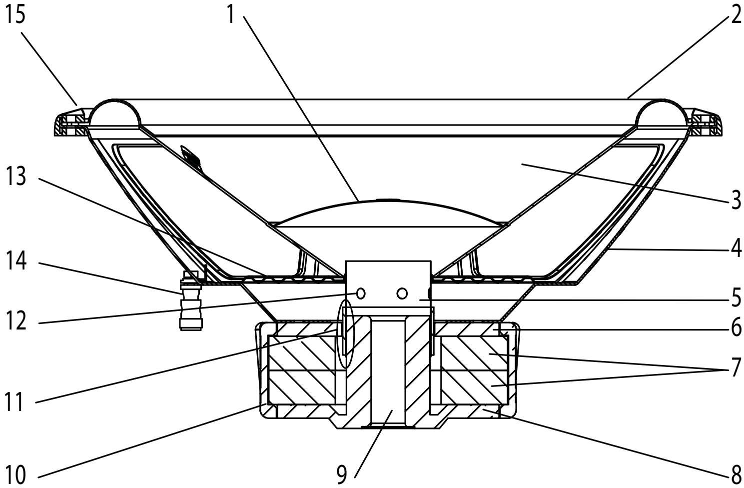
2 Seiten:
Höhe (g) = 4 Zoll (10,2 cm)
Länge (h) = 7 Zoll (17,8 cm)
Dicke = 0,125 Zoll (0,3 cm)

DATEN

Modell/Directed-Teilenummer	CO104S	CO124S	CO154S
Thiele/Small-Parameter			
Fs (Freiluftresonanz, Hz)	39.2	25.6	25.2
Vas (Äquivalente Nachgiebigkeit, Kubikfuß)	1.080	4.017	7.098
Vas (Äquivalente Nachgiebigkeit, Liter)	30.600	113.790	201.070
Qms (Q, mechanisch)	3.53	4.72	6.08
Qes (Q, elektrisch)	0.68	0.55	0.51
Qts (totaler Treiberwert für Q)	0.57	0.49	0.47
Re (GS-Widerstand, Ohm)	3.6	3.55	3.77
Z (Nennimpedanz, Ohm)	4	4	4
Le (Induktivität, mh)	1.38	1.37	1.61
Wirkungsgrad (1 W bei 1 M, dB)	86.1	87.2	89.9
Xmax (linearer Hub in eine Richtung, Zoll)	0.406	0.410	0.453
Xmax (linearer Hub in eine Richtung, mm)	10.2925	10.4075	11.5
Pe (Dauerbelastbarkeit, Watt)	200	200	250
Spitzenbelastbarkeit (Watt)	400	500	600
Mms (Bewegte Gesamtmasse, Gramm)	101.00	127	195
Cms (mechanische Nachgiebigkeit, mm/N)	0.180564	0.294721	0.211994
Bl (Motorstärke, Tesla-M)	10.88	11.61	14.82
Sd (effektiver Strahlbereich, Quadratzentimeter)	346.361	522.792	819.398
Sd (effektiver Strahlbereich, Quadratzoll)	53.706	81.064	127.055
Frequenzbereich (Hz)	39 - 250Hz	25 - 250Hz	25 - 250Hz
Verstärkungs-Bandbreitenprodukt (EBP)	58	47	49
Abmessungen des Treibers			
Lautsprecherhub (Kubikfuß)	0.048	0.061	0.116
Lautsprecher-Außendurchmesser (Zoll/mm)	10.31/ 262	12.40/ 315	15.40/ 391
Einbaulochdurchmesser (Zoll/mm)	9.23/ 232	10.91/ 277	13.82/ 351
Einbautiefe (Zoll/mm)	5.12/ 130	5.51/ 140	6.46/ 164
Magnetgewicht (Unzen)	38.60	41	70
Korbdurchmesser (Zoll/mm)	10.16/258	12.21/310	15.16/385
Empfohlene Gehäuse			
Typisches geschlossenen Gehäuse (Kubikfuß)	0.75	1	2

Daten können ohne vorherige Ankündigung geändert werden

CARATTERISTICHE



1	Protezione parapolvere in polipropilene - resistente all'umidità e ai raggi ultravioletti.
2	Surround maggiorato in NBR (gomma nitrile butadiene) per lunga escursione lineare controllata.
3	Cono aperto in carta - resistente all'umidità e ai raggi ultravioletti.
4	Telaio in acciaio stampato su misura.
5	Supporto aperto della bobina mobile in Kapton (i diffusori da 10” e 12" usano un supporto da 1,5", quelli da 15” usano un supporto da 2").
6	Piastra anteriore in acciaio da 8 mm.
7	2 grandi magneti ceramici in cascata.
8	Piastra posteriore in acciaio da 8 mm/staffa a T per i poli.
9	Apertura da 19 mm (0,75"). Parte del sistema migliorato di raffreddamento della bobina mobile (a convezione forzata).
10	Protezione del magnete in PVC.
11	Bobina mobile da 4 ohm in rame ad alta temperatura.
12	Aperture di ventilazione del supporto della bobina mobile. Parte del sistema migliorato di raffreddamento della bobina mobile (a convezione forzata).
13	Centratore in Conex intrecciato con fili conduttori applicati e avvolti.
14	Terminali a pressione.
15	Guarnizione di montaggio in PVC rovesciabile.

CONFIGURAZIONI DI CABLAGGIO

Le illustrazioni seguenti presentano delle indicazioni di massima su come collegare correttamente un woofer Orion Cobalt a un amplificatore Orion Cobalt in modo da ottenere le massime prestazioni.

Potenza raccomandata dell'amplificatore

	Potenza continua (RMS)	Potenza di picco (watt)
1 woofer	da 100 a 300	da 200 a 600
2 woofers	da 200 a 600	da 400 a 1200
3 woofers	da 300 a 900	da 600 a 1800
4 woofers	da 400 a 1200	da 800 a 2400

Due diffusori in parallelo (bobine mobili da 4 ohm)

Due woofer con bobine mobili da 4 ohm in parallelo causano un carico di 2 ohm sull'amplificatore.

1. Collegare i diffusori in parallelo collegando tra loro i due terminali positivi (+) e i due terminali negativi (-).

2. Collegare i terminali positivi (+) dei woofer al terminale positivo (+) dell'amplificatore. Collegare i terminali negativi (-) dei woofer al terminale negativo (-) dell'amplificatore (figura 2).

Un diffusore (bobina mobile da 4 ohm)

Un woofer con bobina mobile da 4 ohm causa un carico di 4 ohm sull'amplificatore.

1. Collegare il terminale positivo (+) del woofer al terminale positivo (+) dell'amplificatore. Collegare il terminale negativo (-) del woofer al terminale negativo (-) dell'amplificatore (figura 3).

Due diffusori in serie (con bobine mobili da 4 ohm)

Due subwoofer, ciascuno con una con bobina mobile da 4 ohm, collegati in serie causano un carico di 8 ohm sull'amplificatore.

1. Collegare i woofer in serie collegando il terminale negativo (-) della bobina mobile del primo woofer al terminale positivo (+) della bobina mobile del secondo woofer.

2. Collegare il terminale positivo (+) della bobina mobile del primo woofer al terminale positivo (+) dell'amplificatore. Collegare il terminale negativo (-) della bobina mobile del secondo woofer al terminale negativo (-) dell'amplificatore (figura 4).

4 diffusori collegati in serie-parallelo (con bobine mobili da 4 ohm)

4 subwoofer con una con bobina mobile da 4 ohm ciascuno, e con le bobine mobili di ogni coppia di diffusori collegate in serie e tutti i 4 diffusori collegati tra loro in parallelo, causano un carico di 4 ohm sull'amplificatore.

1. Collegare il terminale negativo (-) del diffusore 1 al terminale negativo (-) del diffusore 3 e quindi collegare il filo al terminale negativo (-) dell'amplificatore.

2. Collegare il terminale positivo (+) del diffusore 1 al terminale negativo (-) del diffusore 2.

3. Collegare il terminale positivo (+) del diffusore 3 al terminale negativo (-) del diffusore 4.

4. Collegare il terminale positivo (+) del diffusore 2 al terminale positivo (+) del diffusore 4 e quindi collegare il filo al terminale positivo (+) dell'amplificatore (figura 5).

Vedere lo schema a pagina 4 - 7

RACCOMANDAZIONI PER LA CASSA

Dettagli della cassa

1. Le misure esterne sono calcolate in base a un materiale da costruzione spesso 19 mm (0,75 in).
2. Comprendono il volume interno del diffusore.
3. I volumi indicati sono netti.
4. La cassa comprende una quantità minima di materiale di riempimento. Occorre solo il materiale stret¬tamente sufficiente per allineare l'interno della cassa.

Raccomandazioni per la cassa sigillata Cobalt CO104S (figura 6)

Dimensioni esterne
A = 35,5 cm (14 in)
B = 31,7 cm (12,5 in)
C = 29,2 cm (11,5 in)

Dimensioni interne
A = 31,7 cm (12,5 in)
B = 28 cm (11 in)
C = 25,4 cm (10 in)

Spessore delle pareti
Anteriore = 1,9 cm (0,75 in)
Laterale = 1,9 cm (0,75 in)

— Parti della cassa —
Forma della cassa: prisma quadrato
1 superiore, 1 inferiore:
profondità (c) = 29,2 cm (11,5 in)
larghezza (b) = 31,7 cm (12,5 in)
spessore = 1,9 cm (0,75 in)

1 anteriore, 1 posteriore
altezza (a) = 31,7 cm (12,5 in)
larghezza (d) = 28 cm (11 in)
spessore = 1,9 cm (0,75 in)

2 laterali:
altezza (a) = 31,7 cm (12,5 in)
profondità (c) = 29,2 cm (11,5 in)
spessore = 1,9 cm (0,75 in)

— Montaggio driver —
Anteriore

Vedere lo schema a pagina 8 - 13

Raccomandazioni per la cassa aperta Cobalt CO104S (figura 7)

DDimensioni esterne
A = 31,7 cm (15,75 in)
B = 28 cm (14,25 in)
C = 25,4 cm (12 in)

Dimensioni interne
A = 31,7 cm (14,25 in)
B = 28 cm (12,75 in)
C = 25,4 cm (10,5 in)

Spessore delle pareti
Anteriore = 1,9 cm (0,75 in)
Laterale = 1,9 cm (0,75 in)

— Parti della cassa —
Forma della cassa: prisma quadrato
1 superiore, 1 inferiore:
profondità (c) = 29,2 cm (12 in)
larghezza (b) = 31,7 cm (14,25 in) = 14,25
spessore = 1,9 cm (0,75 in)

1 anteriore, 1 posteriore
altezza (a) = 31,7 cm (14,25 in)
larghezza (d) = 28 cm (12,75 in) = 12,75
spessore = 1,9 cm (0,75 in)

2 laterali:
altezza (a) = 31,7 cm (14,25 in)
profondità (c) = 29,2 cm (12 in) = 12
spessore = 1,9 cm (0,75 in)

— Montaggio driver —
Anteriore

Parti apertura --- Tonda
1 tubo: diametro esterno (e) = 8,2 cm (3,25 in)
diametro interno (g) = 7,6 cm (3 in)
lunghezza (h) = 24 cm (9,5 in)

Parti apertura --- Quadra
1 superiore, 1 inferiore:
larghezza (e) = 7,6 cm (3 in)
lunghezza (h) = 24 cm (10 in)
spessore = 1,9 cm (0,125 in)

2 laterali:
altezza (g) = 7 cm (2,75 in)
lunghezza (h) = 24 cm (10 in)
spessore = 1,9 cm (0,125 in)

Raccomandazioni per la cassa sigillata Cobalt CO124S (figura 8)

Dimensioni esterne
A = 31,7 cm (15,5 in)
B = 28 cm (14,75 in)
C = 25,4 cm (12 in)

Dimensioni interne
A = 31,7 cm (14 in)
B = 28 cm (13,25 in)
C = 25,4 cm (10,5 in)

Spessore delle pareti
Anteriore = 1,9 cm (0,75 in)
Laterale = 1,9 cm (0,75 in)

— Parti della cassa —
Forma della cassa: prisma quadrato
1 superiore, 1 inferiore:
profondità (c) = 29,2 cm (12 in)
larghezza (b) = 31,7 cm (14,75 in) = 14,75
spessore = 1,9 cm (0,75 in)

1 anteriore, 1 posteriore
altezza (a) = 31,7 cm (14 in)
larghezza (d) = 28 cm (13,25 in) = 13,25
spessore = 1,9 cm (0,75 in)

2 laterali:
altezza (a) = 31,7 cm (14 in)
profondità (c) = 29,2 cm (12 in) = 12
spessore = 1,9 cm (0,75 in)

Montaggio driver
Montaggio: anteriore

Raccomandazioni per la cassa aperta Cobalt CO124S (figura 9)

Dimensioni esterne
A = 31,7 cm (18 in)
B = 28 cm (16,75 in)
C = 25,4 cm (13 in)

Dimensioni interne
A = 31,7 cm (16,5 in)
B = 28 cm (15,25 in)
C = 25,4 cm (11,5 in)

Spessore delle pareti
Anteriore = 1,9 cm (0,75 in)
Laterale = 1,9 cm (0,75 in)

— Parti della cassa —
Forma della cassa: prisma quadrato
1 superiore, 1 inferiore:
profondità (c) = 29,2 cm (13 in)
larghezza (b) = 31,7 cm (16,75 in) = 16,75
spessore = 1,9 cm (0,75 in)

1 anteriore, 1 posteriore
altezza (a) = 31,7 cm (16,5 in)
larghezza (d) = 28 cm (15,25 in) = 15,25
spessore = 1,9 cm (0,75 in)

2 laterali:
altezza (a) = 31,7 cm (16,5 in)
profondità (c) = 29,2 cm (13 in) = 13
spessore = 1,9 cm (0,75 in)

Montaggio driver
Montaggio: anteriore

Parti apertura --- Tonda
1 tubo:
diametro esterno (e) = 8,2 cm (4,25 in)
diametro interno (g) = 7,6 cm (4 in)
lunghezza (h) = 24 cm (10 in)

Parti apertura --- Quadra
1 superiore, 1 inferiore:
larghezza (e) = 7,6 cm (3,75 in) = 3,75
lunghezza (h) = 24 cm (10 in)
spessore = 1,9 cm (0,125 in)

2 laterali:
altezza (g) = 7 cm (3,5 in) = 3,5
lunghezza (h) = 24 cm (10 in)
spessore = 1,9 cm (0,125 in)

Raccomandazioni per la cassa sigillata Cobalt CO154S (figura 10)

Dimensioni esterne
A = 31,7 cm (25 in)
B = 28 cm (17,5 in)
C = 25,4 cm (11,5 in)

Dimensioni interne
A = 31,7 cm (23,5 in)
B = 28 cm (16 in)
C = 25,4 cm (10 in)

Spessore delle pareti
Anteriore = 1,9 cm (0,75 in)
Laterale = 1,9 cm (0,75 in)

—Parti della cassa—
Forma della cassa: prisma quadrato
1 superiore, 1 inferiore:
profondità (c) = 29,2 cm (11,5 in)
larghezza (b) = 31,7 cm (17,5 in) = 17,5
spessore = 1,9 cm (0,75 in)

1 anteriore, 1 posteriore
altezza (a) = 31,7 cm (23,5 in)
larghezza (d) = 28 cm (16 in) = 16
spessore = 1,9 cm (0,75 in)

2 laterali:
altezza (a) = 31,7 cm (23,5 in)
profondità (c) = 29,2 cm (11,5 in) = 11,5
spessore = 1,9 cm (0,75 in)

Montaggio driver
Montaggio: anteriore

Raccomandazioni per la cassa sigillata Cobalt CO154S (figura 11)

Dimensioni esterne
A = 31,7 cm (25 in)
B = 28 cm (17,5 in)
C = 25,4 cm (13 in)

Dimensioni interne
A = 31,7 cm (23,5 in)
B = 28 cm (16 in)
C = 25,4 cm (11,5 in)

Spessore delle pareti
Anteriore = 1,9 cm (0,75 in)
Laterale = 1,9 cm (0,75 in)

—Parti della cassa—
Forma della cassa: prisma quadrato
1 superiore, 1 inferiore:
profondità (c) = 29,2 cm (13 in)
larghezza (b) = 31,7 cm (17,5 in) = 17,5
spessore = 1,9 cm (0,75 in) 1

anteriore, 1 posteriore
altezza (a) = 31,7 cm (23,5 in)
larghezza (d) = 28 cm (16 in) = 16
spessore = 1,9 cm (0,75 in)

2 laterali:
altezza (a) = 31,7 cm (23,5 in)
profondità (c) = 29,2 cm (13 in) = 13
spessore = 1,9 cm (0,75 in)

Montaggio driver
Montaggio: anteriore

Parti apertura --- Tonda
1 tubo: diametro esterno (e) = 8,2 cm (4,25 in)
diametro interno (g) = 7,6 cm (4 in)
lunghezza (h) = 24 cm (7 in)

Parti apertura --- Quadra 1 superiore, 1 inferiore:
larghezza (e) = 7,6 cm (4,25 in) = 4,25
lunghezza (h) = 24 cm (7 in)
spessore = 1,9 cm (0,125 in)

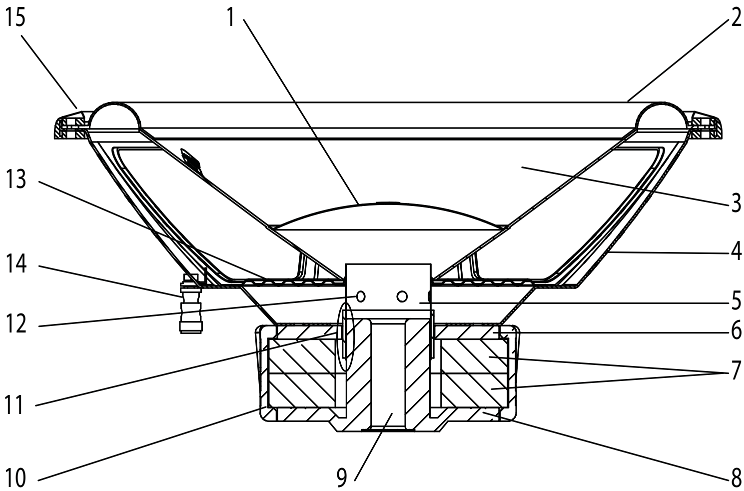
2 laterali:
altezza (g) = 7 cm (4 in) = 4,
lunghezza (h) = 24 cm (7 in)
spessore = 1,9 cm (0,125 in)

DATI TECNICI

Modello/Codici parti	CO104S	CO124S	CO154S
Parametri Thiele/Small			
Fs (freq. di risonanza in aria libera, Hz)	39.2	25.6	25.2
Vas (volume equivalente di cedevolezza, cu ft)	1.080	4.017	7.098
Vas (volume equivalente di cedevolezza, litri)	30.600	113.790	201.070
Qms (Q, meccanico)	3.53	4.72	6.08
Qes (Q, elettrico)	0.68	0.55	0.51
Qts (Q totale driver)	0.57	0.49	0.47
Re (resistenza in c.c., ohm)	3.6	3.55	3.77
Z (impedenza nominale, ohm)	4	4	4
Le (induttanza, mH)	1.38	1.37	1.61
Efficienza (1 W a 1 M, dB)	86.1	87.2	89.9
Xmax (escursione lineare monodirezionale, in)	0.406	0.410	0.453
Xmax (escursione lineare monodirezionale, mm)	10.2925	10.4075	11.5
Pe (potenza elettrica continua, watt)	200	200	250
Potenza di picco (acustica, watt)	400	500	600
Mms (massa meccanica mobile totale, grammi)	101.00	127	195
Cms (cedevolezza meccanica, mm/N)	0.180564	0.294721	0.211994
Bl (fattore di forza elettromeccanico, Tm)	10.88	11.61	14.82
Sd (superficie radiante effettiva, cm quadrati)	346.361	522.792	819.398
Sd (superficie radiante effettiva, sq in)	53.706	81.064	127.055
Gamma di frequenza (Hz)	39 - 250Hz	25 - 250Hz	25 - 250Hz
Prodotto energia - larghezza di banda (EBP)	58	47	49
Dimensioni fisiche del driver			
Volume interno del diffusore (cu ft)	0.048	0.061	0.116
Diametro esterno del diffusore (pollici/millimetri)	10.31/ 262	12.40/ 315	15.40/ 391
Diametro fori di montaggio (pollici/millimetri)	9.23/ 232	10.91/ 277	13.82/ 351
Profondità di montaggio (pollici/millimetri)	5.12/ 130	5.51/ 140	6.46/ 164
Peso magneti (Oz)	38.60	41	70
Diametro telaio (pollici/millimetri)	10.16/258	12.21/310	15.16/385
Casse raccomandate			
Cassa sigillata tipica (cu ft)	0.75	1	2

Caratteristiche soggette a modifica senza preavviso

CARACTERÍSTICAS



1	Cobertura contra pó de polipropileno resistente à umidade e radiação ultravioleta.
2	Surround de borracha nitrílica (NBR) grande para longo deslocamento linear controlado.
3	Cone de papel ventilado resistente à umidade e à radiação ultravioleta.
4	Carcaça de aço estampado especial.
5	Bobina de copo Kapton ventilado (10" e 12" usam bobina de 1,5"; 15" usa uma bobina de 2").
6	Placa frontal de aço de 8 mm.
7	Ímãs cerâmicos grandes de duas camadas.
8	Conjunto de placa traseira/haste em T tipo forquilha de 8mm de aço
9	Abertura de ventilação de 190 mm. Parte do sistema aperfeiçoado de arrefecimento da bobina (convecção forçada).
10	Protetor dos ímãs de PVC.
11	Bobina de cobre de alta temperatura de 4 ohm.
12	Ventilação no copo da bobina. Parte do sistema aperfeiçoado de arrefecimento da bobina (convecção forçada).
13	Aranha Conex entrelaçada com terminais de ouropel costurados em loop.
14	Terminais de pressão.
15	Gaxeta de instalação de PVC reversível.

CONFIGURAÇÕES DE CONEXÃO

As próximas ilustrações fornecem diretrizes sobre como conectar o woofer Orion Cobalt a um amplificador Orion Cobalt para obter o máximo desempenho.

Potência recomendada do amplificador

	Potência contínua (RMS)	Pico de potência (Watts)
1 woofer	100 a 300	200 a 600
2 woofers	200 a 600	400 a 1200
3 woofers	300 a 900	600 a 1800
4 woofers	400 a 1200	800 a 2400

Paralela – Dois alto-falantes (bobinas de 4 ohm)

Dois woofers com bobinas de 4 ohm com dois woofers em paralelo resultam em uma carga de 2 ohm ao amplificador.

1. Conecte o alto-falante em paralelo conectando os dois terminais positivos (+) juntos e os dois terminais negativos (-) juntos.

2. Conecte os terminais positivos (+) dos woofers ao terminal positivo (+) do amplificador. Conecte os terminais negativos (-) dos woofers ao terminal negativo (-) do amplificador (figura 2).

Um alto-falante (bobina de 4 ohm)

Um woofer com bobina de 4 ohm resulta em uma carga de 4 ohm ao amplificador.

1. Conecte o alto-falante unindo o terminal positivo (+) do woofer ao terminal positivo (+) do amplificador. Conecte o terminal negativo (-) do woofer ao terminal negativo (-) do amplificador (figura 3).

Em série – Dois alto-falantes (bobinas simples de 4 ohm)

Dois subwoofers com bobinas simples de 4 ohm conectadas em série resultam em uma carga de 8 ohm ao amplificador.

1. Conecte os woofers em série conectando o terminal negativo (-) da bobina do primeiro woofer ao terminal positivo (+) da bobina do segundo woofer.

2. Conecte o terminal positivo (+) da bobina do primeiro woofer ao terminal positivo (+) do amplificador. Conecte o terminal negativo (-) da bobina do segundo woofer ao terminal negativo (-) do amplificador (figura 4).

Em série/paralela - 4 alto-falantes (bobinas de 4 ohm simples)

Quatro subwoofers com bobinas de 4 ohm simples, com as bobinas de cada par de alto-falantes conectadas em série e todos os quatro alto-falantes conectados em paralelo para resultar em uma carga de 4 ohm ao amplificador.

1. Conecte o terminal negativo (-) do alto-falante 1 ao terminal negativo (-) do alto-falante 3 e, em seguida, conecte este cabo ao terminal negativo (-) do amplificador.

2. Conecte o terminal positivo (+) do alto-falante 1 ao terminal negativo (-) do alto-falante 2.

3. Conecte o terminal positivo (+) do alto-falante 3 ao terminal negativo (-) do alto-falante 4.

4. Conecte o terminal positivo (+) do alto-falante 2 ao terminal positivo (+) do alto-falante 4 e, em seguida, conecte este cabo ao terminal positivo (+) do amplificador (figura 5).

Consulte o diagrama nas páginas 4 - 7

RECOMENDAÇÕES PARA CAIXAS

Detalhes da caixa

1. Dimensões externas calculadas para material de construção de 190 mm (3/4”) de espessura.
2. Inclui o deslocamento do alto-falante.
3. Os volumes fornecidos são volumes de sintonização sem acréscimo
4. As caixas possuem uma quantidade mínima de material abafador. É necessário ter material suficiente para revestir a parte interna da caixa.

Recomendações para caixa selada para Cobalt CO104S (figura 6)

Dimensões externas
A = 35,6 cm (14 pol.)
B = 31,8 cm (12,5 pol.)
C = 29,2 cm (11,5 pol.)

Dimensões internas
A = 31,8 cm (12,5 pol.)
B = 27,9 cm (11 pol.)
C = 25,4 cm (10 pol.)

Espessura da parede
Frente = 1,9 cm (0,75 pol.)
Lateral = 1,9 cm (0,75 pol.)

— Partes da caixa —
Formato da caixa: prisma quadrado
1 topo, 1 parte inferior:
comprimento (c) = 29,2 cm (11,5 pol.)
largura (b) = 31,8 cm (12,5 pol.)
espessura = 1,9 cm (0,75 pol.)

1 frente, 1 parte posterior
altura (a) = 31,8 cm (12,5 pol.)
largura (d) = 27,9 cm (11 pol.)
espessura = 1,9 cm (0,75 pol.)

2 laterais:
altura (a) = 31,8 cm (12,5 pol.)
comprimento (c) = 29,2 cm (11,5 pol.)
espessura = 1,9 cm (0,75 pol.)

— Montagem do alto-falante —
Frente

Recomendações para caixa ventilada para Cobalt CO104S (figura 7)

Dimensões externas
A = 40,0 cm (15,75 pol.)
B = 36,2 cm (14,25 pol.)
C = 30,5 cm (12 pol.)

Dimensões internas
A = 36,2 cm (14,25 pol.)
B = 32,4 cm (12,75 pol.)
C = 26,7 cm (10,5 pol.)

Espessura da parede
Frente = 1,9 cm (0,75 pol.)
Lateral = 1,9 cm (0,75 pol.)

— Partes da caixa —
Formato da caixa: prisma quadrado
1 topo, 1 parte inferior:
comprimento (c) = 30,5 cm (12 pol.)
largura (b) = 31,8 cm (14,25 pol.)
espessura = 1,9 cm (0,75 pol.)

1 frente, 1 parte posterior
altura (a) = 36,2 cm (14,25 pol.)
largura (d) = 27,9 cm (12,75 pol.)
espessura = 1,9 cm (0,75 pol.)

2 laterais:
altura (a) = 36,2 cm (14,25 pol.)
comprimento (c) = 29,2 cm (12 pol.)
espessura = 1,9 cm (0,75 pol.)

— Montagem do alto-falante —
Frente

Partes da ventilação --- Redonda
1 duto: diâmetro externo (e) = 8,3 cm (3,25 pol.)
diâmetro interno (g) = 7,6 cm (3 pol.)
comprimento (h) = 24,1 cm (9,5 pol.)

Partes da ventilação --- Quadrada
1 topo, 1 parte inferior:
largura (e) = 7,6 cm (3 pol.)
comprimento (h) = 25,4 cm (10 pol.)
espessura = 3,2 mm (0,125 pol.)

2 laterais:
altura (g) = 7 cm (2,75 pol.)
comprimento (h) = 25,4 cm (10 pol.)
espessura = 3,2 mm (0,125 pol.).

Consulte o diagrama nas páginas 8 - 13

Recomendações para caixa selada para Cobalt CO124S (figura 8)

Dimensões externas
A = 39,4 cm (15,5 pol.)
B = 37,5 cm (14,75 pol.)
C = 30,5 cm (12 pol.)

Dimensões internas
A = 35,6 cm (14 pol.)
B = 33,7 cm (13,25 pol.)
C = 26,7 cm (10,5 pol.)

Espessura da parede
Frente = 1,9 cm (0,75 pol.)
Lateral = 1,9 cm (0,75 pol.)

— Partes da caixa —
Formato da caixa: prisma quadrado
1 topo, 1 parte inferior:
comprimento (c) = 30,5 cm (12 pol.)
largura (b) = 31,8 cm (14,75 pol.)
espessura = 1,9 cm (0,75 pol.)

1 frente, 1 parte posterior
altura (a) = 35,6 cm (14 pol.)
largura (d) = 27,9 cm (13,25 pol.)
espessura = 1,9 cm (0,75 pol.)

2 laterais:
altura (a) = 35,6 cm (14 pol.)
comprimento (c) = 29,2 cm (12 pol.)
espessura = 1,9 cm (0,75 pol.)

Montagem do alto-falante
Montagem: Frente

Recomendações para caixa ventilada para Cobalt CO124S (figura 9)

Dimensões externas
A = 45,7 cm (18 pol.)
B = 42,6 cm (16,75 pol.)
C = 33,0 cm (13 pol.)

Dimensões internas
A = 41,9 cm (16,5 pol.)
B = 38,7 cm (15,25 pol.)
C = 29,2 cm (11,5 pol.)

Espessura da parede
Frente = 1,9 cm (0,75 pol.)
Lateral = 1,9 cm (0,75 pol.)

— Partes da caixa —
Formato da caixa: prisma quadrado
1 topo, 1 parte inferior:
comprimento (c) = 33,0 cm (13 pol.)
largura (b) = 31,8 cm (16,75 pol.)
espessura = 1,9 cm (0,75 pol.)

1 frente, 1 parte posterior
altura (a) = 41,9 cm (16,5 pol.)
largura (d) = 27,9 cm (15,25 pol.)
espessura = 1,9 cm (0,75 pol.)

2 laterais:
altura (a) = 41,9 cm (16,5 pol.)
comprimento (c) = 29,2 cm (13 pol.)
espessura = 1,9 cm (0,75 pol.)

Montagem do alto-falante
Montagem: Frente

Partes da ventilação --- Redonda
1 duto:
diâmetro externo (e) = 10,8 cm (4,25 pol.)
diâmetro interno (g) = 10,2 cm (4 pol.)
comprimento (h) = 25,4 cm (10 pol.)

Partes da ventilação --- Quadrada
1 topo, 1 parte inferior:
largura (e) = 7,6 cm (3,75 pol.)
comprimento (h) = 25,4 cm (10 pol.)
espessura = 3,2 mm (0,125 pol.)

2 laterais:
altura (g) = 7 cm (3,5 pol.)
comprimento (h) = 25,4 cm (10 pol.)
espessura = 3,2 mm (0,125 pol.)

Recomendações para caixa selada para Cobalt CO154S (figura 10)

Dimensões externas
A = 63,5 cm (25 pol.)
B = 44,5 cm (17,5 pol.)
C = 29,2 cm (11,5 pol.)

Dimensões internas
A = 59,7 cm (23,5 pol.)
B = 40,6 cm (16 pol.)
C = 25,4 cm (10 pol.)

Espessura da parede
Frente = 1,9 cm (0,75 pol.)
Lateral = 1,9 cm (0,75 pol.)

— Partes da caixa —
Formato da caixa: prisma quadrado
1 topo, 1 parte inferior:
comprimento (c) = 29,2 cm (11,5 pol.)
largura (b) = 31,8 cm (17,5 pol.)
espessura = 1,9 cm (0,75 pol.)

1 frente, 1 parte posterior
altura (a) = 59,7 cm (23,5 pol.)
largura (d) = 27,9 cm (16 pol.)
espessura = 1,9 cm (0,75 pol.)

2 laterais:
altura (a) = 59,7 cm (23,5 pol.)
comprimento (c) = 29,2 cm (11,5 pol.)
espessura = 1,9 cm (0,75 pol.)

Montagem do alto-falante
Montagem: Frente

Recomendações para caixa ventilada para Cobalt CO154S (figura 11)

Dimensões externas
A = 63,5 cm (25 pol.)
B = 44,5 cm (17,5 pol.)
C = 33,0 cm (13 pol.)

Dimensões internas
A = 59,7 cm (23,5 pol.)
B = 40,6 cm (16 pol.)
C = 29,2 cm (11,5 pol.)

Espessura da parede
Frente = 1,9 cm (0,75 pol.)
Lateral = 1,9 cm (0,75 pol.)

— Partes da caixa —
Formato da caixa: prisma quadrado
1 topo, 1 parte inferior:
comprimento (c) = 33 cm (13 pol.)
largura (b) = 31,8 cm (17,5 pol.)
espessura = 1,9 cm (0,75 pol.)

1 frente, 1 parte posterior
altura (a) = 59,7 cm (23,5 pol.)
largura (d) = 27,9 cm (16 pol.)
espessura = 1,9 cm (0,75 pol.)

2 laterais:
altura (a) = 59,7 cm (23,5 pol.)
comprimento (c) = 29,2 cm (13 pol.)
espessura = 1,9 cm (0,75 pol.)

Montagem do alto-falante
Montagem: Frente

Partes da ventilação --- Redonda
1 duto: diâmetro externo (e) = 10,8 cm (4,25 pol.)
diâmetro interno (g) = 10,2 cm (4 pol.)
comprimento (h) = 17,8 cm (7 pol.)

Partes da ventilação --- Quadrada
1 topo, 1 parte inferior:
largura (e) = 7,6 cm (4,25 pol.)
comprimento (h) = 17,8 cm (7 pol.)
espessura = 3,2 mm (0,125 pol.)

2 laterais:
altura (g) = 7 cm (4 pol.)
comprimento (h) = 17,8 cm (7 pol.)
espessura = 3,2 mm (0,125 pol.)

ESPECIFICAÇÕES

Modelo/Número do produto	CO104S	CO124S	CO154S
Parâmetros Thiele/Small			
Fs (ressonância ao ar livre, Hz)	39.2	25.6	25.2
Vas (conformidade equivalente, pés cúbicos)	1.080	4.017	7.098
Vas (conformidade equivalente, litros)	30.600	113.790	201.070
Qms (Q, mecânica)	3.53	4.72	6.08
Qes (Q, elétrica)	0.68	0.55	0.51
Qts (Q total do alto-falante)	0.57	0.49	0.47
Re (resistência à CC, ohms)	3.6	3.55	3.77
Z (impedância nominal, ohms)	4	4	4
Le (indutância, mh)	1.38	1.37	1.61
Eficiência (1 W a 1 M, dB)	86.1	87.2	89.9
Xmax (excursão linear unidirecional, pol.)	0.406	0.410	0.453
Xmax (excursão linear unidirecional, mm)	10.2925	10.4075	11.5
Pe (potência máxima permissível contínua, watts)	200	200	250
Capacidade de processamento de pico de potência (música, watts)	400	500	600
Mms (massa total móvel, gramas)	101.00	127	195
Cms (conformidade mecânica, mm/N)	0.180564	0.294721	0.211994
B1 (força do motor, Tesla-M)	10.88	11.61	14.82
Sd (área de radiação efetiva, cm²)	346.361	522.792	819.398
Sd (área de radiação efetiva, in²)	53.706	81.064	127.055
Faixa de freqüência (Hz)	39 - 250Hz	25 - 250Hz	25 - 250Hz
Produto de eficiência da largura de banda (EBP)	58	47	49
Dimensão física do alto-falante			
Deslocamento do alto-falante (pés cúbicos)	0.048	0.061	0.116
Diâmetro externo do alto-falante (pol./mm)	10.31/ 262	12.40/ 315	15.40/ 391
Diâmetro do orifício de montagem do alto-falante (pol./mm)	9.23/ 232	10.91/ 277	13.82/ 351
Profundidade de instalação (pol./mm)	5.12/ 130	5.51/ 140	6.46/ 164
Peso do ímã (Oz)	38.60	41	70
Diâmetro do cone (pol./mm)	10.16/258	12.21/310	15.16/385
Caixas recomendadas			
Caixa selada típica (pés cúbicos)	0.75	1	2

As especificações estão sujeitas a alteração sem aviso prévio.

WARRANTY

COBALT™

LIMITED ONE-YEAR CONSUMER WARRANTY/*LIMITED TWO-YEAR CONSUMER WARRANTY FOR AUTHORIZED DIRECTED DEALER PURCHASE & INSTALLATION

Directed Electronics (herein "Directed") promises to the original purchaser of the subwoofer or amplifier, as applicable (herein "Unit" or "Product"), to repair or replace with a new or refurbished Unit (at Directed's sole and absolute discretion) should the Unit prove to be defective in workmanship or material under normal use, for a period of *two-years from the date of purchase from the authorized Directed dealer PROVIDED the Unit was purchased and installed by an authorized Directed dealer. During this *two-year period, there will be no charge for the repair or replacement PROVIDED the Unit is returned to Directed (DO NOT RETURN THE ENTIRE ENCLOSURE. PLEASE RETURN THE WARRANTIED UNIT ONLY.), shipping prepaid, along with the required proof of installation, the bill of sale or other dated proof of purchase, and the consumer's contact information. If the Unit is installed by anyone other than an authorized Directed dealer, the warranty period will be one-year from the date of purchase. This warranty is non-transferable and does not apply to any Unit that has been modified or used in a manner contrary to its intended purpose, and does not cover damage to the Unit caused by installation or removal of the Unit. During this one-year period, there will be no charge for the repair or replacement PROVIDED the Unit is returned to Directed, shipping pre-paid, along with the bill of sale or other dated proof of purchase and the consumer's contact information. This warranty is void if the product has been damaged by accident or unreasonable use, neglect, improper service or other causes not arising out of defects in materials or construction. This warranty does not cover the elimination of externally generated static or noise, or the correction of antenna problems or weak reception, damage to speakers, accessories, electrical systems, cosmetic damage or damage due to negligence, misuse, failure to follow operating instructions, accidental spills or customer applied cleaners, damage due to environmental causes such as floods, airborne fallout, chemicals, salt, hail, lightning or extreme temperatures, damage due to accidents, road hazards, fire, theft, loss or vandalism, damage due to improper connection to equipment of another manufacturer, modification of existing equipment, or Product which has been opened or tampered for any reason. Units which are found to be damaged by abuse resulting in thermally damaged voice coils are not covered by this warranty but may be replaced at the absolute and sole discretion of Directed. Unit must be returned to Directed (DO NOT RETURN THE ENTIRE ENCLOSURE. THE UNIT ENCLOSURE IS COVERED BY A SEPARATE 90-DAY LIMITED CONSUMER WARRANTY. PLEASE ONLY RETURN THE WARRANTIED UNIT UNLESS A WARRANTY CLAIM IS BEING MADE FOR THE ENCLOSURE.), postage pre-paid, with bill of sale or other dated proof of purchase bearing the following information: consumer's name, telephone number, and address, authorized dealer's name and address, and product description. Unit must be returned to the following address: ATTN: WARRANTY DEPARTMENT, Directed Electronics , 1 Viper Way, Vista, CA 92081. Note: This warranty does not cover labor costs for the removal and/or reinstallation of the Unit. IN ORDER FOR THE TWO-YEAR WARRANTY TO BE VALID, YOUR UNIT MUST BE SHIPPED WITH PROOF OF INSTALLATION BY AN AUTHORIZED DIRECTED DEALER. ALL UNITS RECEIVED BY DIRECTED FOR WARRANTY REPAIR WITHOUT PROOF OF DIRECTED DEALER INSTALLATION AND PURCHASE WILL BE COVERED BY THE LIMITED 1 YEAR WARRANTY.

BY PURCHASING THIS PRODUCT, ALL WARRANTIES INCLUDING BUT NOT LIMITED TO EXPRESS WARRANTY, IMPLIED WARRANTY, WARRANTY OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, AND WARRANTY OF NON-INFRINGEMENT OF INTELLECTUAL PROPERTY ARE EXPRESSLY EXCLUDED TO THE MAXIMUM EXTENT ALLOWED BY LAW, AND DIRECTED NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY LIABILITY IN CONNECTION WITH THE SALE OF THE PRODUCT. DIRECTED HAS ABSOLUTELY NO LIABILITY FOR ANY AND ALL ACTS OF THIRD PARTIES INCLUDING ITS AUTHORIZED DEALERS OR INSTALLERS. IN NO EVENT WILL DIRECTED BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFITS). BY PURCHASING THIS PRODUCT, THE CONSUMER AGREES AND CONSENTS THAT ALL DISPUTES BETWEEN THE CONSUMER AND DIRECTED SHALL BE RESOLVED IN ACCORDANCE WITH CALIFORNIA LAWS IN SAN DIEGO COUNTY, CALIFORNIA. This warranty is only valid for sale of Product within the United States of America. Product sold outside of the United States of America is sold "AS-IS," and shall have NO WARRANTY, express or implied. Some states do not allow limitation on how long an implied warranty lasts. In such states, the limitation or exclusions of this Limited Warranty may not apply. Some states do not allow the exclusion or limitation of incidental or consequential damages. In such states, the exclusion or limitation of this Limited Warranty may not apply to you. This Limited Warranty gives you specific legal rights, and you may have other rights which vary from state to state. 920-0033 04-07

For more information on Orion products please visit www.orioncaraudio.com

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